

BRAZIL

FORTALEZA URBAN TRANSPORTATION PROGRAM

(BR-0302)

LOAN PROPOSAL

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- (*) Charles L. Wright, in memoriam. The team wishes to acknowledge the outstanding contribution made by our colleague, Charles Wright, who headed this operation during most of the preparation phase.

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BASIC SOCIOECONOMIC DATA

For basic country socioeconomic data, including public debt information, please refer to the following address:

<http://www.iadb.org/RES/index.cfm?fuseaction=externallinks.countrydata>

INFORMATION AVAILABLE IN THE RE1/DIV TECHNICAL FILES

Preparation:

1. *Plano Diretor de Desenvolvimento Urbano* [Urban Development Master Plan]—PDDU-FOR Law 7,061, of 16 January 1992, prepared by the Municipal Planning Institute – (IPLAM).
2. *Lei de Uso e Ocupação do Solo* [Land Use and Occupation Act] (Law 7,987/96—Consolidation 1998).
3. *Pesquisa de Origem/Destino domiciliar* [Household Origin/Destination Survey] for the Fortaleza Metro (METROFOR), 1996.
4. *Programa de Trem Urbano de Fortaleza—METROFOR* [Fortaleza Urban Train Program], operated by Rede Ferroviária Federal S/A—RFFSA and Companhia Brasileira de Trens Urbanos (CBTU). Project prepared in the 1980s and in progress since 1999.
5. Final report—“*Linha de Contorno*” [Cordon Line], prepared by the Office of the Mayor of the municipality of Fortaleza (AMF). June 1999.
6. Final reports—“*Travessias 1 e 2 - Screen Line*”, AMF. June 1999.
7. Final report—*Corredores Desenvolvidos* [Corridors Developed]—AMF.
8. Final report—*Pesquisa de Velocidade do Tráfego Geral de Rotas Radiais e Transversais* [Survey of General Traffic Speed on Radial and Transversal Routes]. (AMF) June 1999.
9. Final report—*Pesquisa de Velocidade de Transporte Coletivo* [Collective Transport Speed Survey]. (AMF). June 1999.
10. Final report—*Pesquisa de Contagem Volumétrica e Entrevistas de Bicicletas* [Bicycle Volume Count Survey and Interviews]. (AMF). June 1999.
11. Final report—*Pesquisa de Contagem de Embarques e Controle de Catracas nas Linhas Troncais* [Boarding Count Survey and Control of Turnstiles on Trunk Lines] (AMF). June 1999.
12. Final report—*Pesquisa de Contagem Ocupação Visual* [Visual Occupation Count Survey] (AMF). June 1999.
13. Final report—*Pesquisa de Entrevistas de Tempo de Acesso e Difusão para a Rede de Transporte Coletivo por Ônibus nos Terminais do Município de Fortaleza* [Survey of Interviews on Access Time and Diffusion for the Collective Bus Transport Network in the Terminals of the Municipality of Fortaleza]. (AMF). June 1999.
14. Final report—*Pesquisa de Entrevistas de Origem/Destino nos Terminais de Ônibus Urbanos do Município de Fortaleza* [Origin/Destination Interview Survey in the Urban Bus Terminals of the Municipality of Fortaleza]. (AMF). June 1999.
15. Technical reports (RT-04, 05, 06): (04) *Banco de Dados Consolidado* [Consolidated Databank]; (05) *Diagnóstico do Plano de Circulação Viária Metropolitana de Fortaleza* [Diagnostic Study of the Highway Circulation Plan in Metropolitan Fortaleza]; *Diagnóstico do Plano de Transporte Público de Fortaleza* [Diagnostic Study of the Fortaleza Public Transportation Plan]. (AMF). September 1999.

16. *Cenários Prospectivos de Desenvolvimento Urbano e Econômico da Área de Influência do Programa de Transporte Urbano de Fortaleza para o Município de Fortaleza* [Prospective Urban and Economic Development Scenarios in the Area of Influence of the Fortaleza Urban Transportation Program for the Municipality of Fortaleza]. (AMF). December 1999.
17. Complementary technical reports (RT-04, 05, 06): (AMF). September 1999.
18. Components of the IDB/FOR I program. (AMF). March 2001.
19. Technical report RT-07 (volumes I, II and III): (I) *Concepção e Configuração Física das Alternativas de Rede Viária* [Conception and Physical Configurations of Highway Network Alternatives]; (II) *Produção e Atração de Viagens em Transporte Individual e Linhas de Desejo (Horário pico da manhã)* [Production and Attraction of Journeys in Individual Transport and Desired Routes (Morning Rush-Hour)]; and (III) *Resultado do Carregamento das Alternativas de Rede Viária* [Result of Loading Alternative Highway Networks]. (AMF). March 2001.
20. Technical report RT-08 (volumes I, II and III): (I) *Concepção e Configuração Física e Operacional das Alternativas de Rede de Transporte Coletivo* [Conception and Physical and Operational Configurations of Collective Transport Network Alternatives]; (II) *Produção e Atração de Viagens em Transporte Coletivo e Linhas de Desejo (Horário pico da manhã)* [Production and Attraction of Journeys in Collective Transport and Desired Routes (Morning Rush-Hour)]; and (III) *Alternativas de Rede de Transporte Coletivo (Resultados da Alocação 2020)* [Collective Transport Network Alternatives (Results of 2020 Allocation)]. (AMF). June 2001.
21. *Avaliação Ambiental Estratégica do programa de Transporte Urbano de Fortaleza—AEP* [Strategic Environmental Assessment of the Fortaleza Urban Transportation Program]. (AMF). August 2001.
22. Technical reports (RT-09, 10 and 11): (09) *Matriz de Avaliação por Multicritérios* [Multicriteria Evaluation Matrix]; (10) *Avaliação Técnico-econômica das Alternativas de Rede* [Technical-Economic Evaluation of Network Alternatives]; and (11) *Avaliação Multicriterial das Alternativas de Rede e Seleção da Alternativa Recomendada* [Multicriteria Evaluation of Network Alternatives and Selection of Recommended Alternative]. (AMF). December 2001.
23. Environmental impact assessment (EIA) and Environmental Report of the Fortaleza Urban Transportation Program. (AMF). May 2002.
24. Technical report of the Fortaleza Urban Transportation Plan. (AMF). July 2002.
25. Basic Environmental Project (BEP). (AMF). June 2003.
26. *Plano de Reassentamento e Compensação da População Afetada* [Plan for Resettlement and Compensation of Affected Population] (AMF). July 2003.
27. *Projeto de Interação e Consulta com a Comunidade—Resultados* [Project for Interaction and Consultation with the Community—Results]. AMF July 2003.
28. *Plano de Controle Ambiental* [Environmental Control Plan]. (AMF). July 2003.
29. Basic Environmental Project (BEP). (AMF). July 2003.
30. *Avaliação Técnica-Econômica do programa BID/FOR I* [Technical-Economic Evaluation of IDB/FOR I program]. (AMF). July 2003.

31. *Estudos Financeiros e Institucionais do programa BID/FOR 1* [Financial and Institutional Studies of IDB/FOR I Program] (financial and institutional analysis of PMF, AMC and ETTUSA). (AMF). July 2003.
32. *Projetos Executivos de Engenharia* [Executive Engineering Projects]: detailed engineering designs for projects involving civil works, which were prepared by specialized consulting firms for AMF.
33. Municipal Law 8410/99.
34. Federal Constitution of Brazil
35. *Lei Orgânica do Município de Fortaleza* [Charter of the Municipality of Fortaleza].
36. Consolidated financial analysis of AMF and ETTUSA for the period 1997-2002.
37. Consolidated financial analysis of AMF and ETTUSA for the period 1997-2003.
38. Financial projections of AMF and ETTUSA for 2003-2008.
39. Letter of consultation from AMF to BNDES – 2003.
40. Institutional strengthening project for SEINF, AMC, and ETTUSA. (AMF). 2003.
41. Study of the SIT Compensation System (ETTUSA) – 2003.
42. Curitiba Urban Transportation Program 1. IDB loan document 873/OC-BR. July 1995.
43. Fare simulations (AMF). July 2003.
44. Municipal budget flow chart. July 2003.
45. Organizational chart of the municipality of Fortaleza. July 2003.
46. Logical framework; Annexes 1 through 7, December 2002.

Execution:

1. Agreement between SEINF and Empresa Técnica de Transporte Urbano (ETTUSA).
2. Agreement between SEINF and the Regional Executive Secretariats (SERs).
3. Agreement between SEINF and the Municipal Environment and Urban Services Secretariat (SEMAM).
4. Agreement between SEINF and the Municipal Traffic, Citizenship and Public Service Authority of Fortaleza (AMC).
5. Agreement between SEINF and the Municipal Finance Department (SEFIN).
6. Agreement between the National Transport Infrastructure Department (DNIT) and the Municipality of Fortaleza.
7. Agreement between SEINF and the Mayor's Office.
8. Agreement between SEINF and the Fortaleza Culture, Sport and Tourism Foundation (FUNCET).
9. Agreement between SEMAM and SEMACE.
10. Agreement between SEINF and the Federal University of Paraná.
11. Terms of Reference for SIT revenue management.
12. Terms of Reference and rough draft of bidding documents for contracting in the project for air pollution monitoring in the area directly affected by the IDB/FOR program.

13. Terms of reference and rough draft of bidding documents for contracting in the project on noise pollution monitoring in the area directly affected by the IDB/FOR program.
14. Terms of reference and rough draft of bidding documents for the management plan for the municipal environmental protection area (APA) of the Cocó River Valley.
15. Terms of reference and rough draft of bidding documents for the Parangaba Lake development and landscaping project.
16. Terms of reference for a study of electronic ticketing and automatic fare collection.
17. Terms of reference and rough drafts of bidding documents for hiring consultancy services to prepare institutional modernization projects for SEINF, ETTUSA, AMC and SEAM.
18. Report containing detailed contents of all proposed courses.
19. Terms of reference for contracting in the environmental zoning project in the municipality of Fortaleza.
20. Specifications for market survey and analysis of the location of commercial buildings.
21. Specifications for monitoring land use/urban structure.
22. Terms of reference for development of the Fortaleza cycle lane plan.
23. Terms of reference for the awarding of contracts for the plan for commercial vehicle circulation and loading/unloading operations, including contingency plan for hazardous cargoes.
24. Terms of reference for the awarding of contracts for the project for extension and modernization of the traffic accident information system in the municipality of Fortaleza (SIAT-FOR).
25. Bidding documents for bus operating areas.
26. Program Operating Regulations.

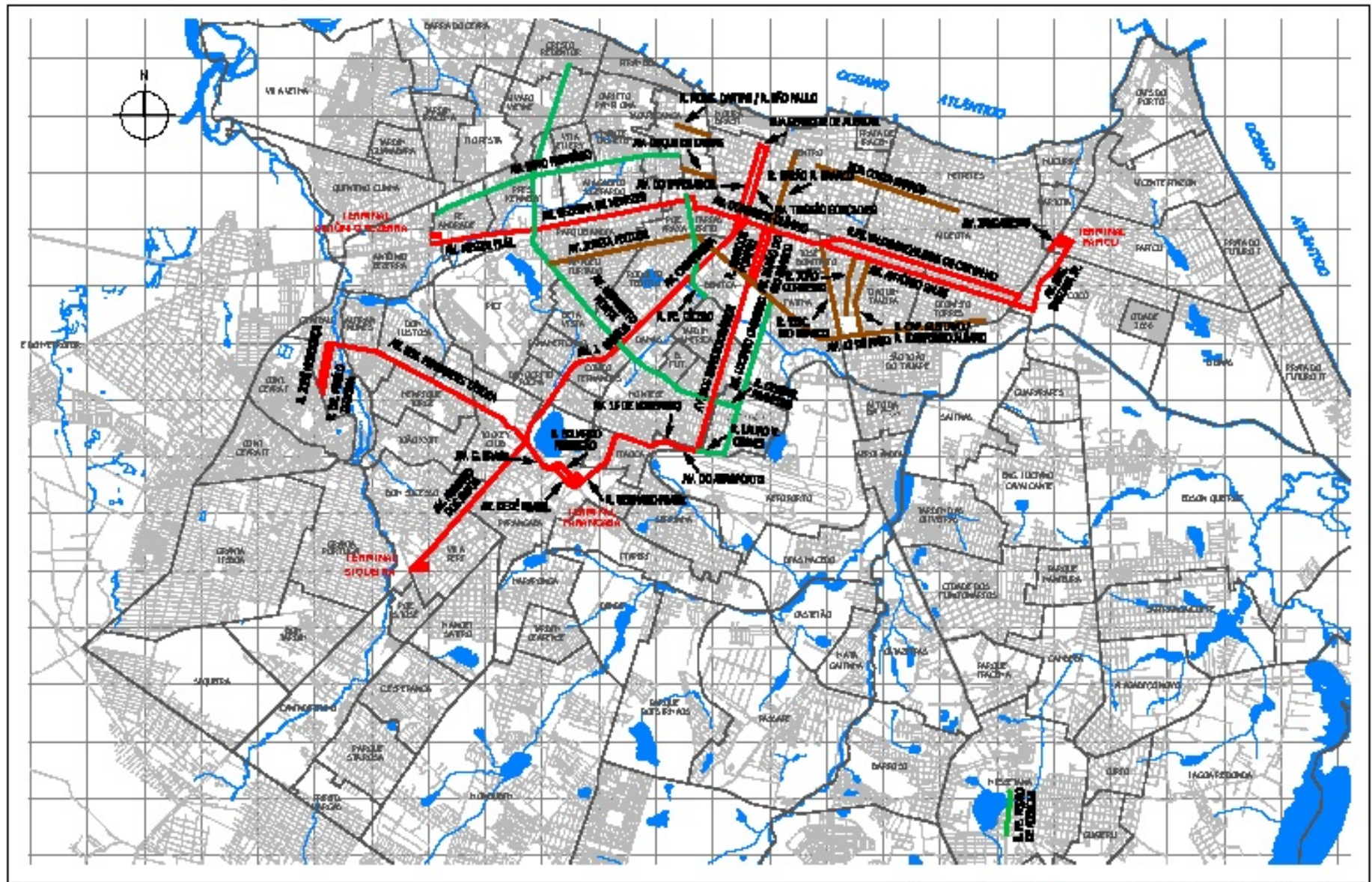
ABBREVIATIONS

AMC	Autarquia Municipal de Trânsito, Serviços Públicos e Cidadania [Municipal Traffic, Citizenship and Public Services Authority]
ATC	Area traffic control
BEP	Basic environmental project
DNIT	Departamento Nacional de Infraestrutura de Transportes [National Transport Infrastructure Department]
ECP	Environmental control plan
EIA	Environmental impact assessment
ETTUSA	Empresa Técnica de Transporte Urbano S.A.
EURR	Economic internal rate of return
METROFOR	Metro de Fortaleza [Fortaleza Metro]
MF	Municipality of Fortaleza
NPV	Net present value
PMU	Program management unit
RMF	Região Metropolitana de Fortaleza [Fortaleza Metropolitan Region]
SCT	Fare compensation system
SEFIN	Secretaria de Finanças [Municipal Finance Department]
SEINF	Secretaria Municipal de Infraestrutura e Controle Urbano [Municipal Infrastructure and Urban Development Secretariat]
SEMACE	Superintendência Estadual do Meio Ambiente - Ceará [Ceará State Environment Superintendency]
SEMAM	Secretaria Meio Ambiente e Serviços Urbanos [Municipal Environment and Urban Services Secretariat]
SIAT	Sistema de Informações de Acidentes de Trânsito [Traffic accident information system]
SINDIONIBUS	Sindicato das Empresas de Transporte de Passageiros do Estado do Ceará [Union of Bus Companies of the State of Ceará]
SIT	Sistema Integrado de Transportes de Fortaleza [Fortaleza Integrated Transportation program]
TTC	Transport trunk corridor

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MAP FOR THE FORTALEZA URBAN TRANSPORTATION PROGRAM

BR-0302 - BID/FOR 1 - HORIZON 2008



CONEXÃO BÍSEA PARA REDE VÁRIA
 NAHON CONTE DE 2003 CONEXÃO CONTE AO PROGRAMA BÍSEA
 - À esquerda dos Corredores de Transporte
 - Melhoramentos das Ruas Várias
 - Melhoramentos e Realização de Vias



Inter-American Development Bank
Regional Operations Support Office
Operational Information Unit

Brazil

Tentative Lending Program

2004

Project Number	Project Name	IDB US\$ Millions	Status
BR0375	Urban Transportation Curitiba II	80.0	APPROVED
* BR0411	Unibanco - Infrastructure Credit Facility	50.0	APPROVED
BR0372	São Paulo Fiscal Administration	20.0	APPROVED
* BR0402	Tele Norte Leste Bond Guarantee (Telemar)	68.0	APPROVED
BR0397	Environmental Rehabilitation Belo Horizonte	46.5	APPROVED
* BR1011	Brazilian Infrastructure Investment Fund (BIIF)	75.0	APPROVED
* BR0370	Campos Novos Hydroelectric Power Project	75.0	
BR0302	Fortaleza Urban Transport	85.2	
BR0400	Sao Bernardo do Campo Urban Transportation	72.0	
BR1009	São Paulo: Evaluation and Improvement of Social Policies	5.0	
* BR1014	Construtora Norberto Odebrecht S.A.(CNO) Secured Corporate Bond	20.0	
BR1001	Food and Agriculture Research	36.0	
BR0403	External Control Modernization Program States PROMOEX	38.6	
BR0358	Financing of PYMES - BNDES	1,000.0	
BR0405	States and DF Administration Modernization I - PNAGE	93.0	
BR0396	Env. Rehab. of the Paraibuna River J. de Fora	19.3	
BR1005	Igarapes de Manaus Environmental-Social Prog.	140.0	
BR1004	Support to BOLSA FAMILIA Program	1,000.0	
Total - A : 18 Projects		2,923.6	
BR0392	Cadaster and Land Regularization Program	18.0	
BR0318	Tourism Development South of Brazil (PRODETUR SUL)	200.0	
BR1006	Macambira Anicuns Urban Program	52.0	
* BR0395	Termonorte	59.2	
* BR0412	Braskem	75.0	
* BR1015	Coelba Investment Program	64.8	
* BR1017	Integrated Cogeneration Facility	75.0	
* BR1019	Comgas Investment Program	43.0	
Total - B : 8 Projects		587.0	
TOTAL 2004 : 26 Projects		3,510.6	

2005

Project Number	Project Name	IDB US\$ Millions	Status
BR1008	BH Citizenship: Integrated Development Project	21.0	
BR1013	Ecotourism Development Mata Atlantica, S.Paulo	9.0	
BR0376	Environmental Improvement for Amapa	21.0	
BR0254	Florianopolis-Osorio Highway Moderniz.	322.0	
BR1016	Competitiveness of Clusters São Paulo	10.0	
BR1012	Sustainable Development Semi-Arid in Sergipe	90.0	
BR0390	Porto Alegre Environmental Recovery	75.0	

BR1018	Brasilia Urban Transportation Program	N/A
BR1002	Espirito Santo State Highways	N/A
BR1020	Pernambuco's Clusters Competitiveness	10.0
BR1021	Sustainable Industrial Development of Minas Gerais	10.0

Total - A : 11 Projects 568.0

BR0339	Environmental National Fund Support Program 3	21.0
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Total - B : 1 Projects 21.0

TOTAL - 2005 : 12 Projects 589.0

Total Private Sector 2004 - 2005 605.0

Total Regular Program 2004 - 2005 3,494.6

*** Private Sector Project**



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IDB LOANS APPROVED AS OF JUNE 30, 2004

	US\$Thousand	Percent
TOTAL APPROVED	25,847,047	
DISBURSED	22,249,974	86.08 %
UNDISBURSED BALANCE	3,597,073	13.91 %
CANCELATIONS	1,651,434	6.38 %
PRINCIPAL COLLECTED	10,528,522	40.73 %
APPROVED BY FUND		
ORDINARY CAPITAL	24,157,508	93.46 %
FUND FOR SPECIAL OPERATIONS	1,558,025	6.02 %
OTHER FUNDS	131,514	0.50 %
OUTSTANDING DEBT BALANCE	11,721,451	
ORDINARY CAPITAL	11,368,059	96.98 %
FUND FOR SPECIAL OPERATIONS	353,087	3.01 %
OTHER FUNDS	305	0.00 %
APPROVED BY SECTOR		
AGRICULTURE AND FISHERY	1,056,935	4.08 %
INDUSTRY, TOURISM, SCIENCE AND TECHNOLOGY	6,404,858	24.77 %
ENERGY	2,567,998	9.93 %
TRANSPORTATION AND COMMUNICATIONS	4,089,100	15.82 %
EDUCATION	793,332	3.06 %
HEALTH AND SANITATION	3,202,775	12.39 %
ENVIRONMENT	666,912	2.58 %
URBAN DEVELOPMENT	2,697,437	10.43 %
SOCIAL INVESTMENT AND MICROENTERPRISE	2,859,193	11.06 %
REFORM AND PUBLIC SECTOR MODERNIZATION	1,077,932	4.17 %
EXPORT FINANCING	0	0.00 %
PREINVESTMENT AND OTHER	0	0.00 %

* Net of cancellations with monetary adjustments and export financing loan collections.



BRAZIL

STATUS OF LOANS IN EXECUTION AS OF JUNE 30, 2004

(Amount in US\$ thousands)

APPROVAL PERIOD	NUMBER OF LOANS	AMOUNT APPROVED*	AMOUNT DISBURSED	% DISBURSED
<u>REGULAR PROGRAM</u>				
Before 1998	18	3,653,267	2,896,736	79.29 %
1998 - 1999	11	1,425,000	407,920	28.63 %
2000 - 2001	10	1,023,784	297,244	29.03 %
2002 - 2003	12	910,800	105,932	11.63 %
2004	3	144,617	0	0.00 %
<u>PRIVATE SECTOR</u>				
2000 - 2001	2	66,100	39,103	59.16 %
2002 - 2003	2	68,900	25,285	36.70 %
2004	2	125,000	0	0.00 %
TOTAL	60	\$7,417,468	\$3,772,220	50.86 %

* Net of cancellations. Excludes export financing loans.

FORTALEZA URBAN TRANSPORTATION PROGRAM

(BR-0302)

EXECUTIVE SUMMARY

Borrower:	Municipality of Fortaleza	
Guarantor:	Federative Republic of Brazil	
Executing agency:	Secretaria Municipal de Desenvolvimento Urbano e Infraestrutura (SEINF) [Municipal Infrastructure and Urban Development Secretariat]	
Amount and source:	IDB: (OC)	US\$ 85.2 million
	Local:	US\$ 56.8 million
	Total:	US\$142.0 million
Financial terms and conditions:	Amortization period:	20 years
	Grace period:	5 years
	Disbursement period:	5 years
	Interest rate:	LIBOR
	Inspection and supervision ¹ :	0%
	Credit fee:	0.25%
Objectives:	Currency:	US dollars drawn from the Single Currency Facility
	The general objective of this program is to improve urban public transport, and thereby enhance the quality of life of the population of the Metropolitan Region of Fortaleza (RMF). The specific objectives are as follows: (i) to prioritize public transport and shorten bus journey times; (ii) to reduce transport costs; (iii) to reduce passenger boarding and disembarkation times; (iv) to improve the safety of motorized and nonmotorized vehicle and pedestrian traffic; and (v) to reduce air pollution and noise levels.	

¹ The interest rate, credit fee, and inspection and supervision fee mentioned in this document are established pursuant to document FN-568-3 Rev. and may be changed by the Board of Executive Directors, taking into account the available background information, as well as the respective Finance Department recommendation. In no case will the credit fee exceed 0.75%, or the inspection and supervision fee exceed 1% of the loan amount. With regard to the inspection and supervision fee, in no case will the charge exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount, divided by the number of six-month periods included in the original disbursement period.

Description:	<p>The proposed program is a multiple works operation that will be executed within the boundaries of the Municipality of Fortaleza (MF). It is divided into the following components: (1) Engineering and administration: this component will finance engineering projects and studies for civil works not included in the representative sample, in addition to program management and audit; (2) Investment, consisting of three subcomponents: (a) <i>construction of urban public transport trunk corridors:</i> this subcomponent will finance highway infrastructure works along three trunk corridors, expansion and restructuring of existing integration terminals, construction of intermediate stations (bus stops), and grade-separated pedestrian crossings and intersections at critical sites; (b) <i>improvement of urban roads and areas:</i> this subcomponent will finance lane addition/widening and restoration on roads outside the trunk corridors, together with bus stops, grade-separated intersections and improvements to public spaces; and (c) <i>highway safety:</i> this will finance a system of monitoring traffic and an independent traffic-light system; (3) Institutional strengthening: this component will finance institutional upgrading and training for technical staff in the four institutions involved in the program. Among other things, it will also finance equipment procurement; a freight transport and unloading plan, including a contingency plan for accidents involving hazardous products; and an accident information system (highway safety); and (4) Concurrent costs: this category will finance compensation and resettlement for affected population groups using counterpart funding, in addition to environmental compensation (paragraphs 2.2 through 2.13).</p>
The Bank's country and sector strategy:	<p>The Bank's strategy with Brazil focuses on the following four strategic areas: productivity and infrastructure, poverty and equity, living conditions and efficiency in cities, modernization of the State; and other crosscutting issues such as the environment. The proposed program addresses five points, insofar as it contributes to: (i) competitiveness of the Metropolitan Region through its institutional strengthening component; (ii) reduction of social inequalities, poverty, and social exclusion; (iii) improvements in the air quality and living conditions through reductions in noise resulting from more efficient, less polluting forms of transportation; and (iv) modernization of the State through the institutional strengthening component.</p>
Coordination with other international organizations:	<p>An agreement was signed between the municipality of Fortaleza (MF) and the state of Ceará to promote coordination between the Bank-funded program and the future Fortaleza Metro to be financed jointly by the World Bank and by the Japan Bank for International Cooperation (JBIC). This envisages physical integration between the</p>

two systems and an eventual integration of fares, which was simulated in the planning studies for modernization of the Fortaleza Integrated Transport System (SIT) (paragraphs 1.9 through 1.12).

Environmental and social review:

The program's civil works have already received the preliminary environmental permit from the Municipal Environment and Urban Services Secretariat (SEMAM). Before the works can actually start, an environmental installation permit needs to be obtained under Brazilian environmental legislation. The following environmental studies were carried out in this connection: (i) a strategic environmental impact assessment (EIA) together with the corresponding environmental impact assessment report; and (ii) the basic environmental project (BEP) that contains detailed designs of environmental mitigation programs, including a program for compensation and resettlement of affected low-income populations prepared in accordance with Bank policy OP-710. The studies were released to local communities, and were also posted on the Bank's public information center (PIC) webpage on 1 July 2003. Public hearings were also held with population groups directly affected by the civil works.

Benefits:

The main benefits expected from this program are: (i) reduction in transport costs; (ii) shorter journey times and optimization of itineraries; (iii) more comfortable vehicles and improved public access to terminals, bus stops, and the vehicles themselves; and (iv) better safety conditions for public transport and circulation by cyclists and pedestrians, thereby reducing the risk of accidents. The program will benefit all residents of the RMF, particularly low-income people who normally live on the outskirts of the city.

Risks:

That the program has complete engineering projects for the representative sample (in this case covering over 90% of the program) which have been reviewed and approved by the project team, together with terms of reference for all service contracts awarded, and an institutional strengthening component, will reduce most of the execution and operational risks normally encountered in this type of project.

Given the existing shortcomings in the current fare compensation system (SCT) (paragraph 1.18), and the innovative nature of the system being proposed (i.e. concession of operating areas consisting of a trunk corridor with its traffic feeder routes, instead of concessions of individual bus routes), the bidding process for the five areas into which the municipality has been divided may fail to attract bidders. These risks stem mainly from ambiguity in the current legal and institutional framework, confusion over the system for calculating

fares, and uncertainty surrounding responsibility for eventual deficits in the SCT. These risks will be minimized as follows: (i) amendments to the municipal legal and institutional framework for public transport (paragraph 1.16); and (ii) preparation of bidding documents for the concessions that establish clear guidelines. These two factors should attract private enterprise interest in investing in the public transport sector in Fortaleza (paragraphs 3.26 through 3.28).

The SCT, which was created to implement a single fare system in Fortaleza (paragraphs 1.7 and 1.18), has been running deficits since its inception in 1992. According to the bus companies, this deficit was aggravated when the MF authorized fares at lower levels than those calculated using technical criteria; and it could have negative consequences if it persists in the new system to be set up when the proposed operating arrangement is implemented (paragraph 2.15). This risk will be minimized by a new fare compensation system, and with provisions in the bidding documents stipulating that fares calculated on the basis of technical criteria by Empresa Técnica de Transporte Urbano S.A. (ETTUSA) be used.

Lastly, there is a risk of administrative discontinuity following the elections in late 2004, if the next administration fails to give the project the same priority as the present municipal administration. Because of its benefits to a broad range of low-income groups, the project enjoys strong public support, so the next mayor is unlikely to downgrade it.

**Special
contractual
clauses:**

(1) Conditions precedent to the first disbursement: The executing agency will provide evidence to the Bank that: (i) the consulting firm that will support the program management unit (PMU) has been engaged and has started work; (ii) a firm has been hired to monitor noise pollution (paragraph 3.5); (iii) publication and implementation of legislation governing the establishment of the new SCT, to the Bank's satisfaction (paragraph 3.37); and (iv) the Municipality, acting through the executing agency, has presented, to the Bank's satisfaction, model documents for the concession of transport services in the operating areas.

(2) Conditions precedent to initiation of the works: The executing agency must demonstrate to the Bank that: (i) the technical and environmental supervision firm has been hired and mobilized; (ii) the technical training course has been held for inspectors of the regional secretariats (SERs); (iii) the process of expropriation along roads or in project areas as well as resettlement of affected communities has been concluded; and (iv) the works have obtained the corresponding environmental installation permit.

(3) **Other special conditions:** the executing agency must demonstrate, to the Bank's satisfaction, that:

- a. Twelve months following the signing of the loan contract: (a) institutional strengthening studies have been commissioned for: (i) the SEINF; (ii) SEMAM; (iii) the Municipal Traffic, Public Services, and Citizenship Authority (AMC); and (iv) Empresa Técnica de Transporte Urbano S.A. (ETTUSA) (paragraphs 2.10 through 2.12); and (b) standards for the design and specifications for the execution of highway projects have been adapted/updated (see paragraphs 2.3 and 3.39);
- b. Eighteen months after signing the loan agreement, the following must have been commissioned: (i) a management plan for the Cocó River Environmental Protection Area; and (ii) a loading and unloading circulation plan, including hazardous cargoes; and (iii) an accident information system project (paragraph 3.40); and
- c. Twenty-four months after signing the loan agreement, all the studies mentioned in paragraphs (a) and (b) above must have been concluded (paragraph 3.41).

Poverty-targeting and social sector classification:

This operation qualifies as a social equity enhancing project, as described in the indicative targets mandated by the Bank's Eighth Replenishment (document AB-1704). On a beneficiary count basis, since 52% of SIT beneficiary users are living below the poverty line defined by the Bank, this operation also qualifies as a poverty-targeted investment (PTI) (paragraphs 4.15 and 4.16). The borrower has decided not to make use of the 10% of additional financing.

Exceptions to Bank policy:

None.

Procurement:

Neither the civil works nor the buildings that form part of the program to be funded by the Bank are complex or large scale, so prequalification for the corresponding bidding processes is considered unnecessary.

Contracts for the program's civil works and services, and for procurement of goods, will be awarded in accordance with Bank procedures. International competitive bidding (ICB) will be required for civil works contracts in amounts of US\$5 million or more, procurement of goods in amounts equal to or greater than US\$350,000, and contracts for consulting services in amounts of more than US\$200,000 (paragraph 3.22).

I. REFERENCE FRAMEWORK

A. Urban transportation and development

- 1.1 Shortcomings in urban public transportation systems are amongst the most serious economic and social problems in Fortaleza and other Brazilian cities. Public transport is so important that in most cities interruptions in service or fare increases have been about the only event that will trigger spontaneous outbreaks of civil disorder because most of the user population, who are poor, depend on public transport to get to work, access commerce and essential services, and engage in other social and economic activities. Low-income families tend to live away from built-up city centers, in areas offering little employment and few services, and for shorter trips they must rely mainly on nonmotorized transport (going on foot or by bicycle).
- 1.2 Urban transportation in Fortaleza (Boxes 1 and 2) faces more serious problems than in many other urban centers in Brazil, because of a high population density (exceeding 20,000 inhabitants/km² in seven of its 73 districts), and rapid growth in the automobile stock.¹
- 1.3 The city has, however, a number of positive characteristics that could favor urban mobility, if appropriate principles of transport and traffic planning and management were to be used. Land use is mixed, with residential, commercial activities, schools, and others competing to take advantage of flat topography and a benign climate. These factors facilitate nonmotorized travel: 41% of journeys longer than 0.5 km are made on foot and another 8% are made by bicycle. The fact that most pedestrian journeys are shorter than 0.5 km, reinforces the importance of this mode of travel. Motorized travel is predominantly by bus (60%; used for longer journeys, mainly in connection with work and school); followed by the automobile, 23%; bicycle, 11%; train, 1%; and other means of transport, 5% (taxis, moto-taxis, etc.).

Box 1

Fortaleza, capital of the state of Ceará in the northeast of Brazil, has 2.1 million municipal residents and 2.8 million inhabitants in its metropolitan area (RMF). The municipality contains 29% of the total state population of 7.4 million, and is its leading industrial, commercial and tourist hub. It has a geographic area of 313 km², a population density of 6,800 inhabitants per km², and a demographic growth rate of 2.2% per year. The Atlantic Ocean forms the northern and the eastern borders of the municipality. Topography is predominantly flat, with minor undulations. Recently three new industrial districts have been set up in the RMF, and the service sector is expanding. Nonetheless, most of the municipal population belong to low-income groups, and the municipality continues to receive migrants from agricultural regions and rural populations from other parts of the state where droughts are a periodic cause of public calamity.

Box 2

Within the boundaries of the Municipality of Fortaleza (MF), the zones of fastest economic growth, driven by services, are those immediately to the east of the historical center, and especially the district of Aldeota. The fastest growing areas of residential activities are the outlying zones to the west and south of the municipality. This growth pattern has shifted the predominant transport axis among municipal inhabitants, from north-south to west-east.

B. Modernization and current situation of the urban public transportation system

1. Operating framework

¹ The number of registered vehicles in the Municipality rose from 161,000 in 1994 to 248,000 in 1999.

- 1.4 In the late 1980s and the first half of the 1990s, the MF sought to address urban transportation problems by establishing eight bus terminals integrating most bus lines both physically and in terms of fares. The SIT² represented a significant improvement on the old public transport system, in which many passengers had to buy two tickets per trip, and users from outlying low-income areas paid a higher fare. A public opinion survey conducted in 1992 by the Municipality of Fortaleza showed that 85% of users had approved the changes (Box 3).
- 1.5 Implementation of the SIT also had a positive effect on the structuring of the city, by consolidating production and journey attractors along the transport trunk corridors (TTCs) and integration terminals. This has made it possible to consider modernizing urban public transport services along trunk routes, as envisaged under the proposed program.
- 1.6 At the present time, the SIT operates a trunk structure, consisting of a group of integration terminals located in outlying areas and in the city center, connected by feeder lines. Feeder, round-trip, and inter-neighborhood services are integrated with the trunk routes linking the terminals. This allows for transfer within a closed system, since passengers can transfer between any of the lines that serve a given terminal, without paying an additional fare. Nowadays, approximately 1.6 million out of a total of 1.86 million journeys per day made in municipal buses take place within the SIT, with the user paying a single flat fare.
- 1.7 The integration of fares made possible by the terminals involves a fare compensation system (SCT) (Box 4, and paragraphs 1.18, and 2.15), which is currently run by the bus companies (i.e. the firms that provide the service and operate the buses) through their association (SINDIONIBUS). Firms with the commercially most attractive routes are expected to generate a surplus to compensate those operating the less profitable ones.
- 1.8 In 1998 an Area Traffic Control System (ATC) was introduced in the MF to optimize the capacity of the urban road network, by collecting and publicizing

Box 3

A study performed by Empresa Técnica de Transporte Urbano S.A. (ETTUSA) in July 2002 found that users still approve of the integration concept (the accessibility offered by the single fare and transfer system). Another ETTUSA study on unofficial transport, or “minibuses”, shows that they currently account for 10% of municipal passenger transport and that their market share is declining. This is indicative of the quality of SIT service and the ETTUSA’s capacity to supervise and manage the system. Further evidence of the benefits of ETTUSA’s performance is that SIT buses have an average on-time record of 98.6%, and that the average age of its 1,500-vehicle fleet is approximately 3.5 years. The bus model used predominantly in Fortaleza dates from the 1970s. These vehicles have a 110-passenger capacity, three high steps at entrance and exit doors, and an inside turnstile. This design makes boarding and disembarking difficult for passengers (particularly for women, children, passengers with disabilities, and passengers with parcels). The buses, which are operated under concessions (see footnote 2), are not air-conditioned and during periods of slow-moving traffic temperatures inside the vehicles are high. Buses brake and accelerate constantly because there are no dedicated bus lanes, generating high noise levels within buses and on city streets.

Box 4

The SCT is a mechanism for redistributing the revenue earned by SIT operating firms. It aims to establish financial-economic balance among these firms by redistributing revenue from those that earn a surplus towards those operating less profitable routes that generate deficits. Based on information provided by the firms through reports, and on the controls it maintains, ETTUSA calculates the cost of service for each firm, and informs the Union of Bus Companies of the State of Ceará (SINDIONIBUS) of the corresponding figures. It then makes the respective credits and debits to the accounts of each firm. If surplus funds among the firms making profits (i.e. receipts greater than the cost of the service) are insufficient to pay credits to firms sustaining deficits (i.e. receipts less than the cost of the service) the latter only receive part of the credit to which they are entitled, and the balance is recorded in an account in their favor as a debt owed by the SCT to those firms.

² The SIT was regulated by Law 7.163 of 30 June 1992, which approved public transport service regulations for the MF.

information on traffic conditions in real time. At the present time, this consists of 190 intersections in the Aldeota district, to the east of the city center.

2. METROFOR

- 1.9 The metropolitan region also has a passenger rail service operating on two lines, which were built at the start of the twentieth century for freight and passenger transport. These two lines are currently in a dreadful state and carry approximately 1% of passengers in the metropolitan region: Line 1 (South-North) and Line 2 (Southwest-Northeast). The federal government, with financing from the Japan Bank for International Cooperation (JBIC), is modernizing these lines to form the Fortaleza Metro (METROFOR). The government is also negotiating a loan from the World Bank for civil works and additional equipment, including implementation of a new freight line and modernization of the two passenger transport lines and corresponding systems. When the new services begin,³ operation of the railroads will be transferred to the jurisdiction of the Government of the state of Ceará, in keeping with the decentralization of metropolitan transport envisaged in the Federal Constitution of 1988.
- 1.10 The SIT is expected to be physically integrated with METROFOR and a unified fare system is planned. This was simulated in the planning studies for SIT modernization, and no major impact on demand along the main trunk routes is forecast. Fare integration will operate through data transmission between the two transport modes, using an electronic-ticketing system which is scheduled for implementation in the SIT during execution of this program (see paragraph 2.12).
- 1.11 An agreement has been signed between the MF and the state of Ceará to promote more effective coordination between development of the SIT and METROFOR systems; and a technical coordination mechanism has been formally established in network planning, thereby ensuring the compatibility of the entire system. At the present time coordination is taking place in the METROFOR integration study, which is in the diagnostic stage.
- 1.12 The investments envisaged in the proposed program to support SIT modernization will be carried out under coordinated planning with METROFOR, to ensure they are compatible with it when implemented.

3. Legal and institutional framework

- 1.13 Under the Brazilian Federal Constitution of 1988, responsibility for most traffic-related functions was delegated to the municipalities. Federal Law 9,503

Box 5

ETTUSA: This is an enterprise of mixed ownership, the majority shareholder being the MF (98.7%) with the bus companies holding minority stakes. It is attached to the Municipal Infrastructure and Urban Development Secretariat (SEINF), and generates its own revenue. Its main responsibilities are: (i) planning and programming of bus transport; (ii) installation, operation and administration of integration terminals; (iii) control of urban public transport services in the MF; (iv) verification of compliance with schedules and collection of fares by the firms; and (v) calculation of the cost of the service provided by SIT operators. It is also responsible for technical inspection of public transport vehicles.

³ METROFOR is scheduled to start operations in 2007.

of 23 September 1997, which instituted the new National Traffic Code, provided for the municipalization of most traffic functions previously exercised by the state. In 1998 the MF took over traffic management, which was previously run by the Ceará Traffic Department (Detran-CE) through Empresa Técnica de Transporte Urbano (ETTUSA)⁴. The latter was created in 1993, as part of the institutional framework to establish and sustain the SIT. Although subsequently renamed Empresa de Trânsito e Transporte Urbano S.A., its acronym, ETTUSA, remained unchanged. In March 2001, the MF created the Municipal Traffic, Citizenship, and Public Services Authority (AMC) under a municipal law, as a directly administered body, in a move to make service as efficient as possible, and also to overcome the problem of legal challenges to the authority of a semi-private enterprise like ETTUSA to assess traffic fines.

- 1.14 Following the creation of the AMC, traffic-related responsibilities and tasks were transferred from ETTUSA to the new authority, along with the corresponding income. ETTUSA then revived its original name Empresa Técnica de Transporte Urbano S.A. (paragraph 1.13), retaining responsibility for urban public transport. Nonetheless, under an agreement signed in June 2001, ETTUSA continues to provide support services to AMC,⁵ and generates the income needed⁶ to defray the corresponding costs. (Details of the organizational structures of the two bodies are available in the program files and in Boxes 5 and 6).

Box 6

AMC: the Municipal Traffic, Citizenship, and Public Services Authority, created by Municipal Law 8,419 of 31 March 2002, is an indirectly administered municipal organization. It generates its own revenue directly from payments of traffic fines, and is attached administratively to the SEINF. The AMC is responsible for ensuring compliance with traffic regulations and driver education, traffic control and operation, maintenance of a Traffic Accident Information System (SIAT), and the operation of all independent traffic signals and those in the Area Traffic Control System (CTA). It has trained staff including traffic wardens and policemen.

- 1.15 To guarantee proper implementation of the proposed program, ETTUSA and AMC require institutional strengthening in order to modernize their information systems and operating and management teams and to satisfy the requirements of traffic safety, communication with users and a suitable environmental management. Their employees also need training in those issues (paragraphs 2.10 through 2.12).
- 1.16 With regard to the legal framework governing the municipal public transport sector, the Federal Constitution and the Federal Law on Concessions (Law 8987/95), establish that public services provided by third parties must operate under a concession or permit regime, and should always be awarded through a competitive

⁴ The acronym ETTUSA has remained the same despite various changes in the company name.

⁵ The AMC is also responsible for managing the contract with a private firm for installation and maintenance of street lighting, from which it receives revenues from the municipal street lighting charge, paid by all property owners in streets that benefit from this service.

⁶ As much as 94% of ETTUSA's internally generated revenues come from a charge paid by bus companies participating in the SIT, corresponding to 3% of system revenues. The remainder of its income comes from rental of sites in bus terminals, inspection services on public transport vehicles, and income from fines imposed on bus companies and other urban public transport concession holders.

bidding process. Municipal Law 8410/99, which governs the public service permits and concessions regime in the MF, complies with all the provisions of the Federal Constitution and Federal Law 8987/95 on this matter. Nonetheless, in referring to the operation of transport services, the Charter of the Municipality of Fortaleza does not mention concession, but requires such services always to be delegated under a permit regime, without specifically mentioning the need for a bidding process. Consequently, nearly all bus lines today are operating with permits that were granted without competitive bidding. To allow concessions for operation of the new system to be put out to tender during program preparation, the municipal Charter was amended to accommodate concessions regime based on constitutional principles and the Federal Concessions Act.

4. Planning framework

- 1.17 During program preparation, the MF prepared its public transport and highway circulation plans. These have now been concluded and accepted by the Bank; they also conform to the Fortaleza Urban Development Master Plan approved in January 1992. The transport and highway circulation plans form the basis of the municipality's urban transportation master plan for the period 2002-2020, which is in its final phase of preparation before being submitted for approval by the municipal council. In the districts with the highest trip density, the transport master plan focuses on public transport and improvements in circulation conditions for pedestrians and cyclists. The plan foresees integration between the future metro stations (to be operated by the state of Ceará) (see paragraphs 1.9 through 1.12) and the bus routes. The first and largest stage in the urban transportation master plan is likely to be the 2005-2010 urban transportation program, for which the MF has requested partial financing from the Bank. This aims to alleviate the main operating problems of the urban road system and to meet present and future transport demands as mentioned above.

5. Current situation

- 1.18 The SCT (paragraph 1.7), which was established when the SIT was created, has a cumulative deficit of approximately US\$73 million,⁷ largely reflecting differences between the fare actually charged to users and the value calculated by ETTUSA (the technical fare). The latter is based on a cost plan which theoretically should cover expenses and pay for services provided by firms operating longer routes with a lower passengers-kilometer ratio (pkr), using the surpluses generated by the shorter routes with a higher pkr.⁸ Current legislation in conjunction with concession contracts or temporary permits, fail to define precisely the responsibilities of the

⁷ The program does not aim to solve the problem of the current SCT deficit, but to design a new system that is independent of the current one, does not repeat the same problems, and is sustainable in the long run (paragraph 2.15).

⁸ In fact, given the way this is used to transfer funds in the SCT, the firms with the largest number of ticket-paying bus passengers are in the best position as regards SCT "account netting".

different actors regarding the risks assumed by the buses companies, or how the SCT deficit should be covered.⁹ The MF considers that the risk associated with SCT results corresponds to the bus companies that operate the SIT and manage the system. The firms, on the other hand, believe the MF is contributing directly to the system's financial imbalance, by granting fare increases below the cost of the service for these firms as calculated by ETTUSA (paragraph 2.15).¹⁰

- 1.19 Despite the success of public transport measures previously implemented in the MF, such as the single flat fare with integration terminals, they did not do enough to make the system more efficient, perversely compounding a series of problems. A combination of high vehicle density, growth of the existing vehicle stock (paragraph 1.2), shortage of suitable infrastructure, and hazardous traffic conditions, converged to restrict urban mobility and proper access to employment and services. Buses move ever more slowly, thereby lengthening journey times, increasing air and noise pollution, and adding to the costs of the operating firms.¹¹ Use of nonmotorized vehicles can become dangerous given the various defects in sidewalks and pedestrian crossings, and the absence of bicycle lanes in much of the city. Pedestrians and cyclists account for 48% and 12%, respectively, of all traffic fatalities.
- 1.20 In addition, the historical radial route design makes the situation worse, particularly on the city's west side, where traffic converges on the historical center, where the streets are narrow and connections between the east and west sides of the city are inadequate. As a result, chronic congestion has caused business activity in the city's historical center to drop off.

C. Previous participation by the Bank in loans to the state of Ceará

- 1.21 The Bank has not previously extended any loan to the MF. Nonetheless, the Metropolitan Region of Fortaleza (RMF) has benefited from two credits granted by

⁹ According to a legal report on the operation of the fare compensation system, prepared by ETTUSA and approved by the Municipal General Counsel, the MF cannot be held responsible for compensating firms that are creditors of the system for the following reasons: (i) the system is managed and its account is operated by the Fortaleza Association of Public Transport Companies; (ii) there is no legal provision defining the "technical fare", which is the expression used by ETTUSA to refer to a fictitious fare that should be paid by passengers, for the system to break even if it depended on the fare alone; (iii) the fare is set by the Mayor and does not cause a deficit in the system because, when the financial result is negative, it is carried forward as a cost for the following month not requiring a price increase.

¹⁰ Fare increases are decided upon by the Mayor, who may authorize rates below the amounts calculated by ETTUSA. According to the business owners, this situation could lead to some of the firms becoming insolvent. Two firms that went out of business have filed suit in the courts against the office of the Mayor of Fortaleza for losses suffered, alleging that the low fare set by the Mayor was the cause of their bankruptcy. A definitive ruling on this case is pending.

¹¹ Despite general satisfaction with the service provided by the SIT compared to the situation prior to integration, there is growing concern among users regarding the low capacity of the buses and the reduction in their speed.

the Bank to the state of Ceará. The Fortaleza sanitation project (BR-0186, US\$199 million), concluded in 1996, financed the cleanup of the two principal river basins in Fortaleza and made a significant contribution to reducing pollution on its main beaches. Approval of stage two of the Ceará sanitation project (BR-0324, US\$100 million) is currently being processed. This would clean up Fortaleza's third river basin, as well as other major cities throughout the state. Implementation of phase two of the Ceará road program (BR-0253, US\$115 million) is nearing completion. Although targeting roads in other parts of the state, this program included lane addition on 52 km of roads and the construction of 50 km of high standard bicycle lanes in the metropolitan area. The program allowed freight vehicles access to industrial and warehousing districts without passing through the city center; and established other alternative routes to enhance access to the beaches, municipalities and exits to Fortaleza's east and west.

- 1.22 In addition, the state of Ceará has also participated with other states in the program to promote tourism in the northeast (BR-0204), which is currently under execution. This includes modernization of the passenger terminal at Fortaleza airport, and the paving of roads to beaches outside the RMF.
- 1.23 All of these projects have made a significant contribution to economic and social progress in the state, which has achieved growth rates bettering both the national average and the northeast region as a whole since the mid-1990s.

D. Lessons learned from previous urban public transportation programs

- 1.24 Phase one of the Curitiba urban transportation program (BR-0209) and later studies¹² have shown that in cities the size of Fortaleza, modern bus systems can offer service comparable in quality to that of the finest railway systems, at a cost of between 5% and 17% of a rail-based system and with lower operating expenses.¹³ This program helped Curitiba establish what is today acknowledged to be the world's best urban transportation system, and the inspiration for the Bus Rapid Transit programs in the United States, and the Transmilenio program in progress in Bogotá, with three lines already in operation.
- 1.25 Projects in those countries have shown that modern bus systems have the capacity to equal or exceed the capacity of trams or light trains, and that total travel time is shorter than by metro systems over relatively long distances of 12km to 18km.¹⁴ The advantage is due to: (i) shorter distances between stations; (ii) closer proximity of station entrances to boarding platforms; and (iii) the systems' more frequent

¹² For example, José Alex Sant'Anna, *Sistemas Modernos e Tradicionais de Ônibus no Mercosul Ampliado*. Washington, D.C.: Inter-American Development Bank, 2001, and Charles L. Wright, *Transporte Urbano en América Latina y el Caribe: el Papel de los Autobuses y del Transporte No Motorizado*, Technical Note RE1-98-005, March 1998.

¹³ *Modern Bus Systems*, study by Charles Wright, Alex Sant'Anna, Jorge Chautre, and Alan Cannell. 2002.

¹⁴ Ibid.

operation. The only major disadvantage of the bus however is diesel engine particle emissions, which have now been halved through technological improvements in motors, fuels, and emission systems. The National Environment Council's (CONAMA) latest emission standards are in line with the much stricter Euro III and Euro IV (European) standards. With MF's adoption of these standards for the new bus fleet, diesel engine emissions are expected to fall to 10% of their previous levels by 2010.

- 1.26 Although urban buses are operated by private enterprise throughout nearly all Latin America, such systems work well in cities with the management capacity to structure a modern bus system. Where such bodies do not exist, they need to be created before the other components of the system can be put in place. The examples of Curitiba and Bogotá show that the planning function is indispensable to establishing a modern bus system. Cities without the proper level of planning need more specialized assistance to prepare an urban transportation program. In Fortaleza, the experience gained from preparing a plan and a program to start up such a system has been highly valuable in the process of training key personnel in local planning and bus management.

E. The Bank's strategy with the country (2004-2007)

- 1.27 The Bank's strategy with Brazil, which is consistent with the "Plan Brasil de Todos" identifies four areas of action: **(i) Productivity and Infrastructure**, with priority on the use of public and private cooperation in new investment; **(ii) Poverty, Equity, and Human Capital Development**, which focuses on revenue distribution programs as a short-term measure and on education and health as vehicles that provide a sustainable basis for producing greater equity; **(iii) Living Conditions and Efficiency in Cities**, incorporating actions to combat urban poverty and improvements in the inhabitability, efficiency, and environmental quality of cities; and **(iv) Institutional Strengthening and Modernization of the State**, with emphasis on subnational areas of government. In addition to these four priority areas of strategic action, the Bank is according priority to some crosscutting themes evident in some or all strategic areas, particularly those having to do with **integration, environment, and reductions in subnational, gender, and racial inequality.**
- 1.28 The proposed program focuses on increasing productivity, reducing social inequalities and poverty, and improving urban living conditions and efficiency. In particular, the local economy will become more efficient as a result of shorter journey times to and from work and educational centers. The main beneficiaries are the users of Fortaleza's public transport system and people who move about on foot and by bicycle. As such individuals come mainly from low-income groups, the program will help to reduce poverty and social exclusion. The introduction of more efficient traffic flow schemes and buses with low emission levels will also help to improve the environment. In addition, the program's institutional strengthening component advances the goal of State modernization.

F. Value added by the Bank's presence in the design of the program

- 1.29 The Bank's participation, through exchanges between its professionals and consultants and their counterparts in the MF, has provided the opportunity, experience and motivation for a substantial improvement in the initiative as originally conceived. The original vision of the proposed program was quite different from what finally emerged through consensus. Collaboration between the Bank and the MF made it possible to tighten the definition of the proposed program's primary goal—from improving urban transportation in general to improving the means of transport most frequently used by the majority of the Fortaleza population, (i.e. urban public transport). This refinement of the primary target strengthened the prioritization of interventions, under a unified technical rationale, coordinated to create a network consisting of the main urban public transport arteries.
- 1.30 The Bank's participation also helped to formulate a solid and comprehensive planning framework, within which it is possible to identify, prioritize, and design the components of a genuine urban public transportation program. In 2001 the public transport and highway circulation plans were developed (paragraph 1.17), laying down transport development guidelines for the period 2002-2020. In addition, the Bank's role as "honest broker" also facilitated the signing of a document between the MF and the government of the state of Ceará, deepening the framework of coordination between the Fortaleza urban transportation program and METROFOR (paragraphs 1.9 through 1.12).
- 1.31 Another major contribution involved the analysis and incorporation of socioenvironmental considerations into the program through the strategic environmental assessment (SEA), and the basic environmental project (BEP), together with all the impact mitigation and compensation measures identified in the environmental studies. These included environmental control plans (ECPs) detailing all the protection measures taken and environmental specifications for the civil works. The Bank's presence also helped to identify those areas where improvement was needed: (i) the municipality's environmental legislation; (ii) SEMAM's capacity to evaluate environmental impact assessments and build them into the engineering designs; (iii) the development of procedures for issuing environmental permits; and (iv) the training for SEMAM technical staff in the organization's function in environmental quality monitoring and control.
- 1.32 Lastly, the Bank's presence made it possible to consider and incorporate elements of road safety, both in the design of all its investment components, and through independent components specifically aimed at solving the most pressing problems in these two areas (paragraph 2.8).

II. THE PROGRAM

A. Objectives

- 2.1 The general objective of the proposed program is to improve public transport in the RMF. Its specific objectives are: (i) to prioritize public transport and shorten bus journey times; (ii) to reduce passenger boarding and disembarkation times; (iii) to improve traffic safety for motorized and nonmotorized vehicles and pedestrians; and (iv) to reduce air pollution and noise levels.

B. Program description and components

- 2.2 The program involves multiple works to be executed within the geographic limits of the MF. The operation will finance four components: (1) **engineering and administration**; (2) **investment** (direct costs); (3) **institutional strengthening**, in terms of management support for the organizations involved; and (4) **concurrent costs**.

1. Engineering and administration component (US\$3.9 million)

- 2.3 This component will finance execution of the engineering projects and studies needed to achieve the program's physical objectives, in the civil works that were not included in the representative sample (US\$700,000); and program administration (US\$3.2 million), which includes coordination (US\$450,000) and consulting services needed for managerial support for the program management unit (PMU). This includes updating and adapting the design standards and specifications for the execution of road projects (US\$2.6 million). The cost of external audits during program execution are also included (US\$150,000).

2. Direct cost component (investment) (US\$82.8 million)

- 2.4 This component, relating to the program's physical targets, is divided into the following subcomponents:

a. Implementation of urban public transport trunk corridors (Transport trunk corridor) (US\$47.4 million)

- 2.5 This subcomponent will finance the construction of the three urban public transport corridors already selected, in order to make collective transport more efficient and enhance the capacity and safety of the road network. In laying out the transport corridors, priority will be given to those involving the least need to move low-income populations, the largest operating deficits in the integration terminals, and the greatest passenger demand, in terms of the operational structure and configuration of the SIT as a whole, and provided they generate an internal rate of return above 12%. The subcomponent contains the following elements:

- a. *Road infrastructure (US\$36.1 million)*: This will finance works associated with the road infrastructure along each trunk corridor, consisting of the following: (i) asphalt paving of all road surfaces; (ii) concrete paving of urban public transport bus stop areas; (iii) geometric alterations at major intersections; (iv) construction of cycle lanes and sidewalks to facilitate access by nonmotorized transport to the integration terminals and bus stops; (v) road marking; and (vi) creation of lateral green areas alongside the corridors.
 - b. *Integration terminals (US\$3.8 million)*: This will finance expansion and reconstruction work in the existing integration terminals on each artery. The terminal platforms will be lengthened and widened to provide sufficient space for passenger access movement and waiting areas. The functional design of each terminal has been adapted to optimize internal and external circulation (immediate accesses to the terminals) for both vehicles and pedestrians.
 - c. *Intermediate stations (US\$3.8 million)*: This will finance works to construct bus stations (stops) of standard design between the terminals, on all transport trunk corridors.
 - d. *Grade-separated pedestrian crossings and intersections (US\$3.7 million)*: this will finance: (i) the construction of overpasses at the intersections where conflicts with cross-flow traffic are greatest; to include sidewalks for pedestrians, always with priority to the flow of urban public transport on the trunk corridor; and (ii) the construction of pedestrian crossings where pedestrian cross-flow is greatest outside these intersections.
- 2.6 The operation of urban public transport services along each trunk corridor will have the following characteristics: (i) use of an exclusive or preferential bus lane with restricted access for private traffic; (ii) integration terminals, intermediate stations and articulated high-capacity buses, which are air conditioned and less polluting, specially designed and equipped to allow rapid boarding and disembarkation at platform level, thereby facilitating access for all passengers, including the disabled; and a payment mechanism outside the vehicles; and (iii) installation of traffic lights at all important intersections on the main arteries as part of the ATC (paragraph 1.8), thereby allowing general traffic flows in its area of influence to be optimized in real time, with priority being given to urban public transport.

b. Improvement of roads and urban areas (US\$28.55 million)

- 2.7 This subcomponent will finance work to be carried out away from the main urban public transport trunk corridors, to improve conditions for vehicle circulation away from the main corridors, upgrade bus stops on these routes, and improve user access to the terminals on the main arteries. It includes the following elements:
- a. *Lane addition/expansions (US\$13.15 million)*: This will finance civil works to increase the capacity of critical road segments, focusing directly on routes used

by public transport services or general traffic likely to be diverted as a result of the creation of each of the main urban public transport corridors.¹⁵ Interventions will be implemented according to the prioritization criteria mentioned in paragraph 2.5. Works are expected to be carried out on a total of 14 km of road, and include construction of storm sewers, sidewalks, street lighting, relocation of public services, signaling and lateral green areas.

- b. *Restoration works (US\$9 million)*: This subcomponent will finance works to improve the surfacing of certain critical road sections, to be implemented according to the prioritization criteria mentioned in paragraph 2.5. Twelve individual road segments are expected to be resurfaced, totaling 12.5 km.
- c. *Bus stops (US\$250,000)*: Financing will be provided for the relocation of bus stop structures which currently serve the SIT trunk lines (to be replaced by the intermediate bus stations on the TTCs (paragraph 2.5c) that will be constructed as part of the program) on roads outside the main corridors.
- d. *Grade-separated intersections (US\$3.3 million)*: This item will finance the construction of overpasses to enhance the capacity of critical intersections, prioritized according to the criteria mentioned in paragraph 2.5, on roads used by public transport services or general traffic likely to be diverted as a result of the creation of the main urban public transport trunk corridors.
- e. *Enhancement of public spaces (US\$2.85 million)*: This item will finance works in public spaces in areas that generate or attract the most urban public transport journeys, in order to provide easy access for users between their origin/destination points and the SIT terminals/intermediate bus stop platforms. This work will include construction, expansion or reconstruction of roads, streets, plazas and green areas.

c. Road safety (US\$3.85 million)

- 2.8 This subcomponent will finance support for solving the fundamental problems of road safety associated with the operation of the urban public transport system, for both pedestrians and vehicle users. This is a fundamental aspect of the proposed program, and was actively considered in the development of each of its components. Relevant road safety elements have been built into the design of each intervention, as follows:

- a. *Traffic monitoring system (US\$3.05 million)*: This subcomponent will finance the modernization and expansion of the ATC, extending its present facilities (which are located exclusively in the eastern part of the city (paragraph 1.8), and broadening its coverage to provide better service to the main SIT trunk corridors

¹⁵ The capacity available for general traffic on each corridor will be reduced by implementation of the lane preferentially reserved for urban public transport.

(giving priority to the first corridors that are introduced) by means of new traffic light and detector equipment at about 122 intersections, and five TV cameras and two variable message panels (VMPs) throughout the transport trunk corridor system. This will permit rapid incident response, and, given the direct connection to the ATC, real-time changes in traffic flows at the intersections concerned. It will also allow dedicated bus lane use by private vehicles to be monitored.

- b. *Traffic lighting (US\$800,000)*: This will finance the installation of independent traffic lights, along the road network in direct SIT area, at intersections affecting its operation.

d. Works supervision (US\$3 million)

- 2.9 The program will finance technical supervision of the works to be executed within its purview. To this end, environmental supervision will be performed by environmental specialists hired on a contractual basis.

3. Institutional strengthening component (US\$4.3 million)

- 2.10 This component will finance institutional strengthening activities aimed at supporting the management of organizations in the urban transportation sector, including SEMAM. Subcomponents will be as follows:

a. Strengthening of operating units (US\$3.6 million):

- 2.11 This subcomponent will finance consulting services for each operating unit (SEINF, US\$840,000; SEMAM, US\$590,000; ETTUSA, US\$210,000; and AMC, US\$210,000) as follows: (i) a diagnostic study of the performance of each of its various activity sectors; (ii) development of a project for institutional upgrading based on this study, proposing changes in organization, procedures, and routines, in order to make it more efficient; (iii) development of mechanisms to evaluate the results of effecting those changes; (iv) implementation and monitoring by the consulting firm; (v) training of staff in the new procedures and routines; and (vi) training of technical staff from each organization in the software needed to carry out its activities. In addition to those consulting services, training will be provided to SEINF civil engineers and others from the Regional Executive Secretariats (SERs) on topics related to the program's civil works. The subcomponent will also finance the following studies and actions:

- a. For SEINF: (i) interaction and information gathering with the communities affected by the program, to increase their participation in planning and execution; as well as in dissemination of the results of works execution and other program actions; and (ii) a land management study.
- b. For SEMAM: (i) an environmental education program; and (ii) an environmental program to monitor air pollution, noise levels, and bus emissions.

- c. For SEINF, ETTUSA, AMC and SEMAM: procurement of the hardware and software (US\$1.75 million) discharge fully the functions assigned to them, with SEINF in charge of coordination.

b. Technical assistance (US\$760,000)

- 2.12 This subcomponent will finance the following studies to ensure that the program is successfully implemented:

- a. Under ETTUSA coordination: (i) SIT Financial Management Proposal (US\$60,000); (ii) User information system (US\$140,000); (iii) Electronic ticketing system (US\$70,000): this will make it possible to install a single ticket system, allowing passengers to transfer between the different SIT routes.
- b. Under AMC coordination: (i) loading and unloading circulation plan (US\$150,000): A study to design a freight circulation plan, including hazardous cargoes (paragraph 4.28); and (ii) bicycle lane plan (US\$170,000): a study to design a plan to create a coherent and comprehensive network of bicycle lanes in the city with direct links to the green area system; and (iii) accident information system (US\$110,000): a study to modernize the current traffic accident information system (SIAT), to facilitate geo-referencing of its database (covering all accidents within the Fortaleza municipality).

4. Concurrent cost component (US\$38.5 million)

- 2.13 This component will be financed entirely out of counterpart resources. The subcomponents will be as follows:

- a. Expropriations (US\$34.3 million): This subcomponent will finance costs arising from the expropriation of properties on which the trunk corridors will be built and improvements will be made to roads outside the corridors.
- b. Resettlement and environmental compensation (US\$4.15 million): this includes the costs of resettlement and relocation of low-income groups adversely affected by program works, as well as measures to compensate for unavoidable environmental impacts.

5. Financial expenses (US\$12.55 million)

- 2.14 This category includes interest and credit fee, in connection with the Bank loan during program execution.

C. Fare compensation system (SCT)

- 2.15 Under the program, a new Fare Compensation System (SCT) will be introduced to ensure that the transport system awarded by the MF is sustainable. The new SCT has two basic features which aim to avoid the problems that have arisen in the

present system (paragraph 1.18): (i) passengers must be charged a technical fare based on a formula that reflects the real cost of operating the system (paragraph 3.27); (ii) clearly established is the MF responsibility to cover any future SCT deficits that may be generated as a result of charging passengers less than the technical fare. These details will be included in the bidding documents (and future concession contracts) for the new operating areas (paragraph 3.26) into which the MF has been divided. **The Bank's nonobjection to the bidding documents (which include the draft concession contract) will be a condition precedent to the first disbursement (paragraph 3.37).**

D. Environmental considerations

- 2.16 The program's environmental studies were based on current environmental legislation in Brazil and the Bank's requirements for projects of this type. Activities carried out include: (i) environmental impact assessments (EIAs); (ii) environmental management plans, including a resettlement plan for the affected low-income population; and (iii) measures to provide SEMAM with institutional strengthening on environmental issues.

E. Targets and indicators

- 2.17 The logical framework (Annex I) sets out the targets and indicators to be used in monitoring the program. These targets and indicators are of three kinds: (i) physical, including works execution; (ii) institutional, including aspects such as the incorporation of new routines, procedures, and training of professional staff, capacity building for planning, and analysis of the urban transportation sector; and (iii) operational, such as shorter journey times and lower transport costs.

F. Program cost and financing

- 2.18 The total cost of the program is estimated at US\$142 million, to be financed as follows: (i) up to US\$85.2 million with funds drawn from the Single Currency Facility of the Bank's Ordinary Capital; and (ii) up to US\$56.8 million equivalent, from local counterpart funds. The following table of costs (Table II) sets out the components of the program and the funding sources in each case:

Table II
Estimated costs of program components (US\$ millions)

Components/Subcomponents		IDB	Local	Total
1.	Engineering and administration	2,700	1,200	3,900
1.1	Studies and designs	100	600	700
1.2	Program administration	2,600	600	3,200
1.2.1	Program coordination	-	450	450
1.2.2	Support management	2,500	100	2,600
1.2.3	External audit	100	50	150
2.	Direct costs (Investment components)	78,500	4,300	82,800
2.1	Implementation of public transport corridors	45,000	2,400	47,400
2.1.1	Road infrastructure works	34,300	1,800	36,100
2.1.2	Integration terminals	3,600	200	3,800
2.1.3	Intermediate stations	3,600	200	3,800
2.1.4	Grade-separated intersections and pedestrian crossings	3,500	200	3,700
2.2	Improvements to roads and urban areas	27,150	1,400	28,550
2.2.1	Lane duplication/expansion	12,500	650	13,150
2.2.2	Restoration works	8,600	400	9,000
2.2.3	Bus stops	200	50	250
2.2.4	Grade-separated intersections	3,150	150	3,300
2.2.5	Enhancement of public spaces	2,700	150	2,850
2.3	Road safety	3,550	300	3,850
2.3.1	Traffic monitoring system	2,850	200	3,050
2.3.2	Traffic lighting	700	100	800
2.4	Works supervision	2,800	200	3,000
3.	Institutional strengthening	4,000	380	4,380
3.1	Strengthening of operating units	3,440	240	3,680
3.1.1	SEINF	800	40	840
3.1.2	SEMAM	550	120	670
3.1.3	ETTUSA	190	20	210
3.1.4	AMC	200	10	210
3.1.5	Equipment procurement	1,700	50	1,750
3.2	Technical assistance	560	140	700
3.2.1	Bicycle lane plan	150	20	170
3.2.2	Loading and unloading circulation plan, including hazardous cargoes	100	50	150
3.2.3	Accident information system	100	10	110
3.2.4	User information system	110	30	140
3.2.5	Electronic ticketing study	50	20	70
3.2.6	SIT financial management	50	10	60
4.	Concurrent expenses	-	38,450	38,450
4.1	Expropriations	-	34,300	34,300
4.1.1	Valuations	-	250	250
4.1.2	Compensation	-	34,050	34,050
4.2	Environmental compensation and resettlement	-	4,150	4,150
4.2.1	Environmental compensation	-	350	350
4.2.2	Resettlement	-	3,500	3,500
4.2.3	Social work	-	300	300
5.	Financial expenses	-	12,470	12,470
5.1	Interest	-	12,120	12,120
5.2	Credit fee	-	350	350
5.3	Inspection and supervision fee - FIV	-	-	-
	TOTAL	85,200	56,800	142,000

III. PROGRAM EXECUTION

A. Borrower and executing agency

- 3.1 The borrower in this program will be the Municipality of Fortaleza (MF). The Municipal Infrastructure and Urban Development Secretariat (SEINF) will serve as executing agency, with responsibility for planning, execution, and control of public transport and traffic. Works supervision will be carried out through its Regional Executive Secretariats (SERs).¹⁶ All other functions will be executed by ETTUSA and the AMC, as mentioned in Boxes 5 and 6 and in paragraphs 1.14 and 3.4.

1. Execution and management of the proposed program

- 3.2 The program will be coordinated and supervised by the PMU to be created by the MF. The unit, which will report directly to the SEINF, will have a general coordinator, a legal counsel, a communications assistant, a financial management assistant, a works manager, a social work manager, and a manager representing each of the organizations and municipal bodies participating in the program, namely ETTUSA, AMC, SEMAM and SEINF. In addition, the PMU will also have a bidding committee and an expropriations committee. The PMU will maintain permanent links with the Bank, and, where appropriate, will coordinate, supervise, and submit to the Bank for approval all program activities to be carried out by the participating organizations. Both the composition of the PMU and the appointment of its general coordinator and managers must be formalized to the Bank's satisfaction under an agreement with the MF.¹⁷
- 3.3 Among permanent MF staff members, only the general coordinator, the works manager, the legal counsel and the administrative assistant will be included in program costs under program management. Other employees will be paid by the units from which they are drawn, despite being located and working full-time in the PMU. The unit will also receive support from a program management consulting firm, which will include an environmental specialist or specialists, and from a consulting firm for appraisals of properties to be expropriated. Technical and environmental works supervision will be carried out by specialized consulting firms.
- 3.4 The members of the PMU, managers, committee members, assistants, and so forth, may be employees of the MF or consultants contracted by it. In either case they will be required to work on program tasks on an exclusive basis. The program execution responsibilities assigned to each participating unit, will be as follows:

¹⁶ The respective SERs, together with the supervising firm, will inspect the works and service measurements carried out.

¹⁷ See special conditions.

- a. *Assigned to the PMU, with support from the management firm and the Municipal Finance Department (SEFIN):* (i) implement and maintain a computerized accounting system, that can identify, in detailed (individualized) form, funds received and activities financed by each financing source and the executing agency, as well as expenses incurred by type and nature, (ii) maintain up-to-date program accounts; (iii) implement a program planning, monitoring and physical-financial control system; (iv) prepare and submit disbursement requests and expense justifications to the Bank; (v) maintain documentation to support program expenses suitably filed for examination by Bank staff and the external auditors; (vi) prepare and submit to the Bank semiannual reports on the revolving fund within 60 calendar days following the end of each six-month period; (vii) prepare the program financial statements and any other reports that may be requested by the Bank; and (viii) ensure compliance with the contractual conditions and Operating Regulations.
- b. *Assigned to ETTUSA:* plan and prepare final engineering designs for all building and road improvement projects envisaged in the program but not included in the representative sample. ETTUSA will also be in charge of procurement and assembly for the new intermediate public transport bus stops. Furthermore, it will determine the remodeling work to be carried out on the bus stops and integration terminals; specify the types of buses that will need to be acquired by the private firms involved in the program; and coordinate and supervise participation by those firms. ETTUSA will also conduct studies, using specialized consulting firms, to prepare a financial management proposal for the SIT and the electronic ticketing system, and to promote measures needed to assure fulfillment of program guidelines and objectives.
- c. *Assigned to the AMC:* oversee and certify procurement and implementation of the hardware, software, services, consultancies, and training needed for its institutional strengthening; as well as preparation of inspection reports, and development, through a specialized consulting firm, of the loading and unloading circulation plan for the MF, including a hazardous cargo contingency plan. The AMC will also be responsible for preparing terms of reference and promoting the measures needed to assure compliance with program guidelines and objectives.
- d. *Assigned to the SEINF:* administration of the bidding process and supervision of the works, in addition to monitoring and supervision of the resettlement and compensation plan for low-income groups. SEINF will also take such steps as are necessary to ensure fulfillment of program guidelines and objectives.
- e. *Assigned to the SERs:* in conjunction with the supervision firm, inspect civil works, gauge services performed, and authorize disbursements.

- f. *Assigned to SEMAM:* monitor the program to ensure that the steps recommended for the conservation and protection of socioenvironmental assets are implemented during execution. SEMAM will also be required to take such steps as are necessary to ensure fulfillment of the program's guidelines and objectives.
 - g. *Assigned to SEFIN:* SEFIN will be responsible for budgetary and financial programming of the various program components, in accordance with the published physical and financial timetable; and it will manage the proceeds of the Bank loan and local counterpart funding, which includes payment of statements presented by contractors and suppliers of goods and services. It will also open separate commercial bank accounts specifically for administration of the proceeds of the loan and local counterpart funding, and maintain a suitable internal control system.
- 3.5 The program has Operating Regulations whose nonobjection by the Bank will be a condition precedent to the first disbursement (paragraph 3.37). Preparation of the corresponding document took into account the specifics of the program, the institutional framework of the MF, the execution scheme developed for the program, and the agreements reached during program preparation. The regulations will bring together in a single document all the key information for program implementation and monitoring. The document defines the program's scope of application, describes its objectives and components in greater detail, establishes rules for their execution, and defines the responsibilities and duties of each entity involved in execution, as specified in the respective agreements,¹⁸ in the contract with the body responsible for monitoring noise pollution and authorization, and in the legal instrument signed with the DNIT¹⁹. In addition, it highlights the most important environmental considerations, and defines responsibilities and

¹⁸ List of agreements:

1. Agreement between SEINF and Empresa Técnica de Transporte Urbano (ETTUSA): relating to institutional strengthening of ETTUSA, monitoring the quality of pollutant emissions into the air and the technical characteristics of vehicles and services provided;
2. Agreements between SEINF and the regional executive secretariats (SERs): relating to the execution and inspection of civil works, and implementation of the interaction program;
3. Agreement between SEINF and the Municipal Environment and Urban Services Secretariat (SEMAM): relating to institutional strengthening of SEMAM in the following areas: environmental permits, execution and development of environmental programs and environmental education, monitoring of pollution and implementation of the conservation unit management plan;
4. Agreement between SEINF and the Fortaleza Traffic, Citizenship and Public Services Authority (AMC): relating to strengthening of activities involving signaling, inspection and organization of traffic, preparation of the contingency plan for hazardous cargoes, and inspection and monitoring of the use of exclusive and preferential bus lanes;
5. Agreement between SEINF and the Municipal Finance Department (SEFIN): relating to the opening of specific program accounts and payment of costs using program funds;
6. Agreement between SEINF and the Mayor's Office: relating to implementation of the community information plan;
7. Agreement between SEINF and the Fortaleza Culture, Sport and Tourism Foundation (FUNCET): relating to protection and conservation of historical heritage;
8. Agreement between SEMAM and SEMACE: relating to the issuance of environmental permits.

¹⁹ Agreement between the National Transport Infrastructure Department (DNIT) and the MF relating to delegation by DNIT of works execution on part of national highway BR-222/CE crossing through the municipality of Fortaleza.

methodologies for monitoring program execution. The regulations also include the following documents in an Annex: PMU organizational chart, program financial flow, loan contract, logical framework, program execution timetable, agreements, approved model contracts and bidding documents, and the BEP.

2. Financial situation of the borrower and executing agency

- 3.6 In order to evaluate the financial capacity of the borrower and executing agency to carry out the works covered in this financing operation, and to assess their status as viable borrowers to the Bank, their financial history and prospects were analyzed. This included an examination of consolidated data from the municipality and related organizations.

a. Historical financial analysis

- 3.7 Budgetary execution statements were analyzed for the 1997-2003 period. The main conclusions of the analysis are contained in the following paragraphs.
- 3.8 Between 1997 and 2003 current income grew strongly at an average annual rate of 6%, rising from US\$292 million to US\$414 million. Internally generated revenue increased by 7.4% per year on average during the same period to represent 40.4% of current income. Individually, the most important internally generated revenue sources are the tax on services (ISS) and the urban property tax, which accounted for 26% and 13%, respectively, of the revenue collected by the MF. Statutory transfer payments from the federal government and the states, formed the largest income category, accounting on average for 60% of current income. These transfers correspond to municipal revenue-sharing in the taxes and rates collected by the federal government (mainly the Municipal Participation Fund, which accounted for 30% of such transfers) and the states (mainly the ICMS consumption tax, which accounted for 39%). State transfers in respect of ICMS fell by 18% during 2003 in relation to their 2000 value, reflecting the weak performance of the economy²⁰. As capital earnings were negligible and highly volatile, funding from state banks (BNDES, CEF, BB)²¹ is relied upon for specific projects.
- 3.9 Current expenditures grew faster than income, at an average rate of 7.9% per year. Personnel expenses rose by an annual average of 4.9%, representing 51% of current expenses in 2003, compared to 58.1% in 1997. This proportion is within acceptable limits, according to prevailing legal parameters. The rigorous borrowing limits contained in applicable federal legislation suggest that this situation will be sustainable in the future. Operating expenses were up by an average 10.7% per year, reflecting a rapid expansion in service outsourcing, especially incremental expenses associated with the municipalization of health and basic education.

²⁰ During the 2000-2003 period, GDP expanded 7.53% (or an average annual rate of 2.5%).

²¹ BNDES (Banco Nacional de Desenvolvimento Econômico e Social); CEF (Caixa Econômica Federal); and BB (Banco do Brasil).

Nonetheless, as these operating expenses have a counterpart in funds transferred by the federal government from the National Health Fund and FUNDEF,²² expenditure and income are always in balance. Interest amounted to just 1.4% of current expenditure in 2003, while capital spending accounted for 13% of total outlays in that year, having peaked at 21% in 2000. The main category was investment in civil works and equipment, which averaged US\$48 million.

- 3.10 The analysis of income and expenditure during the seven years studied reveals a fairly well balanced financial situation, as shown in Table III-1. In general, the Municipality of Fortaleza displays a healthy net current surplus, representing 14% of current income during the period. Overall deficits recorded in previous fiscal years were financed with liquidity from the previous year, cash in hand and in bank, short-term financial instruments and other liquid assets. This has enabled the MF to carry out investments planned for a given year without having to depend on the results of that same fiscal year or on loans from state or private-sector banks.

Table III-1
Municipality of Fortaleza:
Comparative analysis of annual income and expenditure (US\$ millions)

Item	1997	1998	1999	2000	2001	2002	2003
A. Current income	291.6	300.4	318.5	370.4	368.4	392.1	413.9
B. Current expenditure (including payroll expenses)	224.8	261.1	246.1	299.5	314.4	344.5	354.2
C. Gross current income (A - B)	66.8	39.3	72.4	70.9	54.0	47.6	59.7
D. Debt service	10.5	12.9	8.5	9.5	8.8	9.3	9.5
E. Other capital transfers	1.1	0.6	0.3	1.2	0.6	1.9	-
F. Net current income (C-D-E)	55.2	25.8	63.6	60.2	44.6	36.4	50.2
G. Capital earnings (internally generated)	0.1	3.3	0.0	0.0	1.2	0.0	-
H. Credit operations	3.2	6.7	14.6	4.5	7.0	3.7	0.9
I. Balance available for investment (F+G+H)	58.5	35.8	78.2	64.7	52.8	40.1	51.1
J. Investments made	28.3	47.4	47.9	76.3	45.0	41.3	49.9
K. Financial result for the year (I-J)	30.2	(11.6)	30.3	(11.6)	7.8	(1.2)	1.2
L. Funds available at start of year	6.3	41.9	24.1	35.4	21.3	34.3	58.0
M. Changes in accounts payable	(42.6)	20.2	(23.5)	(10.7)	(1.4)	28.2	4.9
N. Other liquid assets	48.0	(26.4)	4.5	8.2	6.6	(3.4)	0.0
O. Funds available at the end of the year (K+L+M+N)	41.9	24.1	35.4	21.3	34.3	57.9	62.9

b. Projected financial analysis

- 3.11 Based on the trend in the municipality's budgetary execution statements and the expected behavior of certain growth parameters for the period 2004-2009, financial projections were prepared for the MF (see Table III-2).

²² FUNDEF – National Fundamental Education Development Fund.

Table III-2
Municipality of Fortaleza: Projected financial statements
(US\$ millions)

Item	2004	2005	2006	2007	2008	2009
A. Current income	414.1	422.2	430.6	439.5	448.8	461.4
B. Current expenditure (including payroll expenses)	359.5	365.0	371.1	377.7	383.3	394.6
C. Gross current income (A-B)	54.6	57.2	59.5	61.8	65.0	66.8
D. Debt service	10.7	11.9	13.2	12.4	12.8	12.1
E. Other capital transfers	1.0	1.0	1.0	1.0	1.0	1.0
F. Net current income (C-D-E)	42.9	44.3	45.3	48.4	51.2	53.7
G. Capital earnings (internally generated)	0.8	0.8	0.8	0.8	0.8	0.8
H. Credit operations	6.0	29.4	24.9	20.4	8.8	5.7
I. Balance available for investment (F+G+H)	49.7	74.5	71.0	69.6	60.8	60.2
J. Investments projected	49.5	75.0	73.5	60.9	56.3	51.3
K. Financial result for the year (I-J)	0.2	(0.5)	(2.5)	8.7	4.5	8.9
L. Funds available at start of year	62.6	61.4	59.3	54.9	61.3	63.5
M. Changes in accounts payable	(1.5)	(1.5)	(1.9)	(2.3)	(2.3)	(3.0)
N. Other liquid assets						
O. Funds available at the end of the year (K+L+M+N)	61.4	59.3	54.9	61.3	63.5	64.9

- 3.12 The key assumptions in the analysis, based on a more conservative market forecast than that used by the government, were as follows: (i) GDP growth rates of 2% in 2004 and 3.5% thereafter; (ii) growth in property tax revenue of 2.5% in 2004 and 2005, reflecting the large number of new high-quality buildings in Fortaleza, and 1.5% in 2006-2009 assuming the building boom peters out; (iii) interest earned from the investment of cash surpluses amounting to 5% per year in 2004 and subsequent years; (iv) 1% growth in the vehicle stock in 2004-2005; 2% in 2006 and 2007; and 3% in 2008; (v) payroll expenses grow by 3% a year in 2004 for active and retired staff (municipal elections), and by 1% per year thereafter; (vi) accounts payable decline as a percentage of investment and current expenditure; and (vii) new domestic loans: one-year grace period, amortization over 10 years and an interest rate of 8% per year. Municipal revenue from revenue-sharing transfers from federal and state governments are expected to generate 60% of current income on average (as in the period 1997-2003), and internally generated funds will continue to generate 40% of total income.
- 3.13 Current expenditures are assumed to grow by 11% in the period, matching the growth of current income. Personnel expenses, however, are expected to maintain the same proportion of current income (44%) as in 1997-2003. Debt service is likely to grow because of the IDB loan. The net current income is estimated at 12.5% of current income, compared to the 15% recorded over the period 1997-2003; this is explained by higher current expenditures in 2002, which are projected into the future. There is likely to be a substantial growth in investments in 2005-2007 as a result of program execution, with a significant number of

expropriations during the first two years, followed by a significant reduction starting in 2006.

- 3.14 The financial evaluation of ETTUSA, which manages public transport in Fortaleza, showed that the institution faced difficulties arising from expenses related to the municipalization of traffic management. ETTUSA had been responsible for these duties from 1997 until 2001 when they were transferred to the AMC. Nonetheless, ETTUSA did not benefit from the traffic fines it imposed, or from the proceeds of agreements and compensation in respect of the tax on services (ISS) paid to the MF. With the creation of the AMC and transfer of traffic responsibilities to this new authority, ETTUSA suffered a reduction in income, which was not necessarily entering the firm's cash flows, and, at the same time, a decrease in operating costs, which is expected to pick up in the future, thereby causing the economic-financial situation of the firm to improve significantly. The MF also made arrangements with the firm to offset their mutual credits and debits (account netting). In 2003, the company reported earnings of US\$42,000 compared with a loss of US\$15,000 the year before.

c. Audit

- 3.15 The program's annual financial statements will be submitted to the Bank within 120 calendar days following the end of each fiscal year, certified by a firm of independent auditors acceptable to the Bank, chosen in accordance with procedures set out in the IDB-financed external audit bidding documents (AF-200). Audited financial statements at the end of the program will be presented 120 days following the final disbursement. The audit will be performed in accordance with terms of reference previously approved by the Bank (document AF-400) and based on the Bank's external audit requirements (documents AF-100 and AF-300).

d. Revolving fund

- 3.16 In order to make funds available in advance to pay for activities to be financed by the Bank, a revolving fund of up to 5% of the amount of the Bank loan will be created. The executing agency will send a semiannual report on the revolving fund to the Bank, within 60 calendar days following the end of each six-month period.

B. Procurement of goods and services

1. Contracting for consulting services

- 3.17 The borrower, acting through its various bodies, has demonstrated its capacity to plan and develop functional basic designs for the various components of the program. Nonetheless, it will probably be necessary to hire specialized consulting services to prepare the detailed technical designs of projects not included in the representative sample.

- 3.18 ETTUSA has set up an infrastructure capable of fulfilling the functions of technical monitoring and supervision of the conceptual and architectural design of projects, and works quality control. If necessary, this could be extended by hiring additional staff, so it will not be necessary to hire consulting services for these tasks.
- 3.19 As described above, program coordination and its technical-managerial control will be a PMU responsibility. This unit will require support staff consisting of a group of professionals and technicians who could be MF staff and/or members of some of the related organizations (assigned on a full-time basis), or consultants hired specifically for the purpose.
- 3.20 Contracts for consultants to be paid out of Bank funding will be awarded in accordance with Bank standards and procedures.

2. Bidding for civil works, services and goods procurement

- 3.21 Neither the road works nor the constructions included the program to be financed by the Bank are complex or large-scale, so prequalification for the respective tenders is considered unnecessary.
- 3.22 Contracts for program's civil works and services and for procurement of goods will be awarded in accordance with Bank procedures. International competitive bidding will be required for civil works contracts in amounts equal to or more than US\$5 million, goods procurements worth US\$350,000 or more, and the hiring of consulting services in amounts equal to or greater than US\$200,000. Bidding on goods and civil works contracts in smaller amounts will be conducted in accordance with national legislation, using procedures previously agreed with the Bank.
- 3.23 It was agreed to use the following procedures when hiring consulting firms: (i) the consulting firm to support the PMU in program management, and those providing technical assistance in institutional strengthening activities, will be chosen on the basis of the best technical bid; (ii) other cases will be chosen by a combination of best technical bid and lowest price, weighted 80% and 20%, respectively.
- 3.24 Tenders for civil works financed exclusively with local counterpart funding will be conducted in accordance with legislation in force in Brazil. These procedures will have to adjust to the principles of economy, efficiency and the technical requirements of the project, and also guarantee in the Bank's opinion that the goods are reasonably priced.

3. Programming of tenders

- 3.25 Annex II contains a tentative procurement plan showing approximate dates of calls for tender (General Procurement Notice - GPN) in the categories to be financed partly or wholly with Bank funds.

4. Bus service tenders

- 3.26 The MF aims to regularize institutional aspects of the urban transportation system, by harmonizing federal and municipal laws governing operations under concessions awarded through competitive tender. The routes in the transport system were grouped into five areas, with similar characteristics in terms of operational fleet and passenger demand (operational areas paragraph 4.38). This model is being discussed with the operating companies to enable the new concepts to be assimilated.
- 3.27 The process of bidding for these areas will take into account the new fare compensation model and a calculation of the “technical return” on the services, with a view to correcting the financial deficit currently existing in the system (paragraph 1.18). Once the bidding process for the first operational feeder area for the priority corridor has been completed, the compensation system will start to operate, using the technical fare calculated by ETTUSA (paragraph 2.15), which envisages a return of 12% per year on capital employed.
- 3.28 The MF has now requested and received an informal positive response from BNDES for inclusion of the proposed system in its FINAME credit line. This raises the possibility of financing for the new operating fleet with special characteristics and favorable conditions—an attractive aspect of the bidding process. The management body will also be able to specify the type of vehicles (paragraph 2.6) to be acquired by the private sector, as well as the other units consisting of conventional buses needed for operation of the system.

C. Execution period and disbursement schedule

1. Execution period and targets

- 3.29 The program’s execution period will last for five years, and a disbursement schedule has been prepared on this basis.
- 3.30 Feeder routes will be progressively extended, as the corresponding paving work is completed. This expansion plan is expected to be concluded by late 2008.

2. Recognition of expenses against local counterpart funding

- 3.31 The project team reviewed documentation relating to hiring consulting services to conduct the studies and support the MF in the preparation stage of the program. Contracts for these services were awarded with local funds, following procedures prescribed by Brazilian law; the corresponding amounts are within the limits set by Bank policies (paragraphs 3.17 and 3.22). The Bank may recognize up to the equivalent of US\$560,000 in such expenses as part of the local counterpart funding, provided they were incurred during the 18 months preceding the date of loan approval (and after the project was officially entered in the operations pipeline).

3. Reimbursement of expenses against the loan

- 3.32 The project team has indicated its agreement to commencement of the bidding processes. Should the works actually start before the loan is approved, disbursements made to contractors may be charged to the financing and reimbursed to a maximum of US\$7.5 million equivalent (a maximum of 10% of the total value of the works), provided they are made during the 18-month period preceding the date of approval of the loan (and after the project has been officially entered in the operations pipeline).

4. Capacity of local contractors and suppliers

- 3.33 The MF has carried out civil works similar to those proposed in the program, which were satisfactorily executed by local contracting firms. The SEINF keeps a roster of contractors which is updated continuously. There are no restrictions on participation by nonlocal enterprises, and the roster contains information that makes it possible to classify construction firms on the basis of experience and operational capacity. There are several local metal engineering workshops with sufficient experience and capacity to make the metal components for the intermediate station structures.
- 3.34 The Brazilian automotive industry produces various types of urban bus, including the articulated vehicles that have been operating for many years in various cities in Brazil, and which have also been exported abroad. There are four chassis manufacturers (three of them produce chassis for Curitiba bus companies and for articulated buses), and half a dozen body manufacturers.
- 3.35 In order to guarantee adequate maintenance of the works and facilities included in this program, the MF will undertake to: (i) perform periodic inspections to verify the condition of the routes, constructions, and facilities; and (ii) send a report to the Bank within 60 days after the start of each year for 10 years following the effective date of the loan contract.²³
- 3.36 The annual maintenance report will include: a description of maintenance work performed during the previous year; a list of contracts granted and evidence that they were satisfactorily fulfilled; a maintenance plan for the following year and provisions for financing the current one.

D. Loan conditions

- 3.37 **The following will be conditions precedent to the first disbursement: (i) the publication and effective date of the legislation establishing the new fare compensation model (SCT) to the Bank's satisfaction (paragraph 2.15); and (ii) the MF must have presented, to the Bank's satisfaction, the model**

²³ See special conditions.

document for the concession of transport services in the operating areas (paragraph 2.15);

- 3.38 Further conditions precedent to the first disbursement are as follows: (i) the consulting firm to support the PMU must have been contracted and have begun operations; (ii) the firm that will be in charge of monitoring noise pollution must have been hired;**
- 3.39 Twelve months following the signing of the loan contract, the borrower must demonstrate to the Bank's satisfaction that: (a) institutional strengthening studies have been commissioned for: (i) SEINF; (ii) SEMAM; (iii) the AMC; and (iv) ETTUSA (paragraphs 2.11 and 2.12); and (b) the standards for the design and specifications for execution of highway projects must have been fully updated (paragraph 2.3);**
- 3.40 Eighteen months after signing the loan agreement, the borrower must demonstrate to the Bank's satisfaction that the following have been commissioned: (i) a management plan for the Cocó River Environmental Protection Area; and (ii) a loading and unloading circulation plan, including hazardous cargoes; and (iv) an accident information system project; and**
- 3.41 Twenty-four months after signing the loan contract, the borrower must present to the Bank's satisfaction the conclusion of the studies mentioned in paragraphs 3.39 and 3.40.**
- 3.42 As special conditions precedent to works execution: (i) the technical and environmental supervision firm must have been contracted and mobilized; (ii) the technical training course for inspectors from the SERs must have been held; (iii) the process of expropriation and resettlement in the road segment or area to be executed must have been concluded, in accordance with procedures agreed with the Bank; and (iv) the civil works must have received the corresponding environmental installation permit.**

E. Follow up and monitoring

- 3.43 The Bank's Country Office in Brazil will monitor the bidding and execution of the works. The PMU will present semiannual reports to the Bank, indicating the progress of the project, evaluated on the basis of the monitoring and technical indicators established in the program's logical framework (Annex I). These reports will also include the following information: (i) progress made in terms of the execution indicators and disbursement schedule; (ii) updated execution and disbursement schedules for the rest of the program; (iii) work plan and detailed plan of action for the two subsequent semiannual periods; (iv) report on the progress and fulfillment of BEP environmental programs and their indicators; and (v) evaluation of technical performance indicators defined in the logical framework matrix, making it possible to update the project performance monitoring report (PPMR).**

A startup mission will be held in addition to management missions to monitor and evaluate the program as necessary.

F. Ex post evaluation

- 3.44 The borrower has not expressed interest in conducting an ex post evaluation of the program. Nonetheless, it has undertaken to gather and keep up-to-date information on program performance, as indicated in the logical framework. This will enable the Bank to carry out such an evaluation with his own resources should it wish to do so. The borrower has the resources and means to compile statistical information and conduct the periodic opinion surveys needed for this purpose, as part of its activities, without hiring additional staff. Any ex post evaluations carried out, must: (i) be performed at least two years after the final program disbursement and include an economic and outcomes evaluation following the same methodologies used for the ex ante economic evaluation of the program, and for the measurement of logical framework indicators; (ii) assess the degree of integration between the two urban transportation projects in Fortaleza partly financed by the World Bank (METROFOR; paragraphs 1.9 through 1.12.) and the IDB (BR-0302) in the event that METROFOR is constructed; (iii) last for approximately 70 days; and (iv) have an estimated cost of around US\$70,000. The team recommends that the Bank should finance the ex post evaluation itself.

IV. VIABILITY AND RISKS

A. Technical viability

- 4.1 The program is basically intended to enhance the capacity and efficiency of the existing public transport service, by introducing technological improvements, articulated buses and other vehicles offering platform level boarding/disembarking, and standard intermediate bus stops, which have performed satisfactorily in a wide variety of situations. The infrastructure works do not involve complexities beyond the technical and operational capacity of the local construction industry, and the MF has experienced professional staff to direct and monitor implementation of the various program components. In programming the road works, account has been taken of the need, insofar as far as possible, to avoid interference with existing traffic flows and prolonged disruption to inhabitants in areas adjoining the works. For this reason, long segments in some cases are being divided up, in order to shorten works execution times.
- 4.2 The technical documentation for most of the projects to be partly financed by the Bank is now ready; it has been reviewed by the project team and pronounced satisfactory. Those projects could therefore be put out to tender immediately.

B. Institutional viability

- 4.3 The program will be implemented by the Municipality of Fortaleza itself. In order to guarantee coordination and control of all program activities by participating organizations, the Municipality will create a PMU. This will receive support from a consulting firm that will act as program manager (paragraph 3.3), with additional support from firms that will perform technical and environmental works supervision, and another responsible for appraisals of properties to be expropriated. Although the municipal bodies participating in the program have technically qualified staff capable of fulfilling the responsibilities and tasks they have been assigned, these individuals will receive additional training in order to improve their performance. The proposed structure is considered adequate to the needs of program execution.

C. Financial viability

- 4.4 In the early 1990s, the Municipality of Fortaleza implemented a series of administrative and financial reforms that have resulted in an efficient and financially sound municipal administration. The conclusions of the financial analysis carried out show that: (i) in 1997-2003, total revenue earned by the municipality increased by an annual average of 6%, easily surpassing Brazil's GDP growth, which was about 1.6% per year; (ii) payroll expenses grew more slowly than revenue (4.9%); (iii) in 2003, current revenue amounted to US\$414 million, and domestic debt service charges and amortization (there is no external

debt) totaled US\$9.5 million. As of 31 December 2003, the total debt outstanding amounted to US\$65 million, or 16% of current revenue. This is a low value, especially as it consists of long-term loans at low interest rates. Projections show the MF continuing to display a very manageable situation in terms of debt service, when the loan requested from the Bank is factored in.

- 4.5 The combination of proportionately low payroll expenses with few debt service and amortization obligations has enabled the municipality to maintain a high level of investment. The proposed program would involve major counterpart commitments of US\$18.2 million and US\$16.6 million in 2005 and 2006, respectively, to cover expropriations expenses which are the responsibility of MF. For 2007, 2008, and 2009, the corresponding values are US\$7.4 million, US\$8.4 million, and US\$4.3 million, respectively. Financial projections show that even in 2005 and 2006 the MF should not have problems in absorbing these expenses.
- 4.6 Borrowing by subnational government units is subject to conditions imposed by laws and resolutions issued by the legislature and the nation's executive branch. The corresponding criteria are summarized in Table IV-1, but it should be remembered that they were designed to rectify the financial problem facing the vast majority of states and municipalities, through debt rescheduling agreements with the national government. The MF did not sign an agreement of that type because its financial situation was healthy, and neither party was interested in doing so.

Table IV-1

Category and condition	Real value in 2002
1. Financial debt (debts/liquid current revenue) < 1.2	0.2
2. Primary balance = revenue - non-financial expenses > 0	5.4%
3. Civil servants payrolls < 60% of liquid current revenue	48.2%
4. Satisfactory growth of internally generated revenue	7,3% p.a. 1997-2003
5. Privatization and concessions	Not relevant*
6. Investments compatible with positive primary balance	Yes**
7. Annual credit operations < 16% of liquid current revenue	0%

* The Municipality has outsourced almost everything that can be outsourced.

** In previous years sometimes yes, sometimes no. As explained in the text, the criterion is not very relevant in the case of Fortaleza.

- 4.7 Municipal indices comfortably satisfy the parameters established by the relevant laws and resolutions. Privatizations and concessions (line item 5 in the table) is not relevant in the case of Fortaleza because almost everything that can be outsourced was outsourced years ago.
- 4.8 The conclusion is that the proposed operation is financially viable for the Municipality of Fortaleza and satisfies the parameters recommended by national authorities.

D. Economic viability

1. Economic return

- 4.9 Economic feasibility studies were carried out for the program as a whole and for each of the transport trunk corridors that will be built. Table IV-2 shows the following economic indicators: economic internal rate of return (EIRR) and net present value (NPV), together with the results of the sensitivity analysis allowing for a variation of +20% in costs and -20% in the benefits.
- 4.10 The quantification of program benefits was based on a reduction in vehicle operating costs and economies arising from shorter journey times.
- 4.11 Many other benefits were not quantified monetarily, including: (i) a reduction in air pollution from using vehicles with more advanced anti-pollution technology; (ii) enhancement of built-up areas surrounding the transport corridors and integration terminals; and (iii) use of bicycle lanes for transport and recreation purposes.
- 4.12 The program generates a high economic return, with an EIRR of 61.34% and an NPV of US\$415.2 million based on a real rate of interest of 12% per year. Table IV-2 shows the indicators for the program as a whole, as well as for each transport corridor and two improvements. Figures for the overall program include costs and benefits arising from investments on other urban routes.

Table IV-2 Indicators of rates of return				
Components	IRR (%)	NPV (US\$ million)	Sensitivity analysis	
			Costs +20%	Benefits -20%
Overall program	61.34	415.2	52.27	50.36
Corridor 1 B. Menezes – A. Sales	38.88	59.7	32.34	30.99
Corridor 2 A. Anjos – J. Bastos	18.95	9.4	15.18	14.30
Corridor 3 S.F. Távora – Exped.	35.27	38.7	29.28	28.04
Improvement on Humberto Monte axis	84.66	56.3	70.79	68.01
Improvement on Sargento Herminio axis	77.85	30.2	65.10	62.55

2. Sensitivity analysis

- 4.13 The sensitivity analysis shown in the foregoing table suggests that the program would still generate a high return if costs were 20% higher or benefits 20% lower, with internal rates of return always above 12% per year.

E. Socioenvironmental viability

1. Benefits and beneficiaries

- 4.14 The program aims to improve accessibility within the MF, and to extend the capacity of the road network to facilitate passenger transport organized around bus transit ways. The creation of these corridors raises the efficiency of the road system by improving the productivity of public transport vehicles that can circulate without the congestion caused by automobiles and trucks. This reduces operating costs, shortens passenger journey times, and results in lower costs for the operating firms,

thereby enabling them to lower fares and introduce better vehicles at the same time. The main program beneficiaries are users of the public transport system, together with pedestrians and people who use bicycles as a means transport, and Fortaleza city residents in general. In particular, public transport passengers and users of nonmotorized forms of transport, who are predominantly from low-income groups in depressed outlying zones of the municipality, will gain better access to places of work and services.

2. Social equity and poverty reduction

- 4.15 The program aims to reduce the costs²⁴ and improve the quality of public transport, as well as to ameliorate conditions of circulation for nonmotorized transport (pedestrians and cyclists). The main reasons for using these means of transport are for commuting to work, access to education and health services, and shopping needs. Thus, the program falls within the spirit of paragraph 2.13 of the Eighth Replenishment (document AB-1704), which, without mentioning urban transportation explicitly, refers to the need to promote a wide variety of urban development activities related to social equity and poverty reduction.
- 4.16 Paragraph 2.15 of document AB-1704 on the Eighth Replacement, together with document CP-770-1, classify a project as targeting low-income groups if the latter comprise more than 50% of the total beneficiary population. Calculation of the program's low-income beneficiaries used the databank of the METROFOR program household survey, which covered 20,272 families in 1996. The survey found that 52%²⁵ of the public transport user population in Fortaleza and the RMF live below the poverty threshold stipulated by the Bank (per capita income of R\$140), according to the June 2001 data base. This figure of 52% is probably conservative, and would likely be higher if the calculation also included low-income persons who do not use collective transport, but walk or ride their bicycle. These will also benefit from the program through the improvements made to sidewalks and investments in public spaces, and in safety terms through improvements to pedestrian crossings and signaling, and also from cleaner air and less noise. Thus, on a beneficiary count criterion, the program is expected to qualify as both poverty targeted (PTI) and social equity enhancing (SEQ).

²⁴ ETTUSA presented a simulation to verify the change in the SIT technical fare, as a result of the actions envisaged in the program. This resulted in a technical fare, at June 2003 prices, of R\$1.79 under the current situation, and R\$1.46 after the program. This suggests that program execution will reduce the technical fare by about 18%. The fare currently authorized is R\$1.40.

²⁵ A sensitivity analysis was carried out to analyze the impact of a 20% change in the poverty threshold assumed for the program (VAP). The results were as follows: public transport users: (VAP) = 52%; (VAP - 20%) = 42%; and (VAP + 20%) = 59%; population resident in the municipality: (VAP) = 61%; (VAP - 20%) = 53%; and (VAP + 20%) = 67%; users of public transport and bicycles: (VAP) = 54%; (VAP - 20%) = 43%; and (VAP + 20%) = 61%.

3. Potential socioenvironmental impacts²⁶

- 4.17 The EIA identified the potential negative impacts of program implementation, and recommended mitigating measures. The positive impacts of the program will be felt during the operating phase, and yield considerable socioeconomic benefits, especially to low-income populations. The potential positive impacts are as follows: (i) enhanced access to jobs, services and leisure activities, and shorter journey times; (ii) reduction in the number of accidents involving vehicles and nonmotorized transport; (iii) improved conditions of circulation for pedestrians and cyclists; (iv) attraction of new productive, mainly tertiary activities, due to better accessibility; (v) more opportunities for formal and informal employment resulting from increased economic activity; (vi) better air quality and less noise; and (vii) improved traffic conditions for vehicles in general, among other benefits. Positive impacts will also be generated through job creation during the works phase.
- 4.18 Any potentially negative impacts which would occur mainly in the works execution phase, include: (i) expropriations of properties and/or resettlement of low-income populations; (ii) disturbance of green areas; (iii) risk of contamination of rivers and streams as a result of improper operation of work sites; (iv) deterioration of areas providing sources of materials (sand, gravel and clay) for the works; (v) accidents during the construction period; (vi) slow traffic and congestion in areas around the works; (vii) noise and air pollution due to emissions from equipment used, including noise and vibrations from the works; and (viii) potential need for demolition of buildings forming part of the country's historical and cultural heritage.

4. Socioenvironmental impact management plan

- 4.19 The basic environmental project gives details of all programs for prevention, mitigation, and compensation of environmental impacts resulting from program execution. These consist of 11 environmental programs, including the environmental control plans (ECPs) for road works in the representative sample projects (paragraph 2.16), and the resettlement and compensation plan for low-income population groups. Each of the environmental programs was structured in the BEP with the following content: (i) background; (ii) justification; (iii) general and specific missions; (iv) the community involved; (v) execution plan and executing agencies; (vi) implementation period and timetable; (vii) costs; and (viii) source of funding. Each environmental program is summarized below.
- 4.20 *Environmental program 1: Institutional strengthening of SEMAM (US\$840,000).* This includes (i) institutional upgrading; (ii) human resource training; and

²⁶ In accordance with the new CESI procedure, data are included here which previously were presented separately in the environmental report.

- (iii) procurement of the necessary services and equipment (paragraph 2.11). Executing agency: SEINF/SEMAM.
- 4.21 *Environmental program 2:* Information and interaction with the community (US\$370,000). This program aims to keep the population affected by the program informed of its actions and aims, and mainly to encourage their participation in the planning and execution process. Executing agency: Office of the Mayor/SEINF.
- 4.22 *Environmental program 3:* Environmental education (US\$230,000). This program seeks to promote changes of attitude in the population as regards environmental protection, preservation, and conservation. Executing agency: SEMAM.
- 4.23 *Environmental program 4:* Environmental monitoring (US\$160,000). An air quality monitoring network will be created in the program area to control noise levels and the pollution discharged by motorized vehicles. This program also includes inspection of vehicles in the municipal bus fleet, to measure particulate and gas emissions and noise. Executing agency: SEMAM and ETTUSA.
- 4.24 *Environmental program 5:* Landscaping, protection of green areas, and conservation units (US\$630,000). This will compensate for the removal of isolated trees by replacing native vegetation cover along the routes and areas surrounding the terminals. Management plans will also be prepared for the Cocó River Environmental Protection Area and the Parangaba Lake Conservation Unit. Executing agency: SEMAM.
- 4.25 *Environmental program 6:* Land-use management (US\$140,000). Systematic studies will be carried out to monitor changes in land use and urban structure caused by program implementation, in addition to a study of environmental zoning for the municipality. Executing agency: SEMAM/SEINF.
- 4.26 *Environmental program 7:* Recovery of degraded areas (US\$210,000). This program will regulate the extraction and use of materials for construction, and ensure restoration of areas exploited and/or utilized for the works. Executing agency: Contractors.
- 4.27 *Environmental program 8:* Heritage protection (US\$50,000). The aim of this program is to protect registered historical sites from damage. Special measures will be taken during execution. Executing agency: Contractors.
- 4.28 *Environmental program 9:* Circulation and operation of loading and unloading vehicles (US\$50,000). The aim of this program is to prepare a freight circulation loading and unloading plan for the municipality, including a contingency plan to protect against the circulation of hazardous products, as part of the guidelines of the city's public transport plan (paragraph 2.12b). Executing agency: SEINF, SEMAM, AMC.

- 4.29 *Environmental program 10:* Plan for compensation and resettlement of low-income population (US\$3.5 million). All projects that could cause displacement of low-income populations were included in the representative sample. The socioeconomic profile of the affected population was characterized, mechanisms for compensating low-income groups were identified and detailed, and a mechanism for compensating population groups with incomes above the established limit was also adopted. A communications and negotiation plan with the affected population was prepared and implemented, seeking their effective participation in the decision-making process. The plan complies with Bank policy OP-710 for the resettlement of low-income populations.
- 4.30 The population group that is to be resettled includes 335 homes and 1,739 low income residents. All the properties, buildings and families involved were duly registered. Selected for resettlement were 13 properties satisfying the legal conditions that were near the affected areas to be used for construction of new buildings and to take the resettled population. These properties are located in city areas of high population density, with sanitation, electric power, phone service and road systems, as well as access to social services and health, education, and recreation facilities. The architectural project consists of apartments with one, two, or three bedrooms, bathroom, living room and kitchen, depending on the compensation needed in each case.
- 4.31 For expropriated buildings containing a number of rooms greater than the social assistance category, compensation will be paid in line with market prices negotiated directly with the owners in each case. The alternative of relocation will also be offered to low-income occupants of such dwellings who are not owners (tenants).
- 4.32 The MF has experience with the “Mutirão” and “Promoradia” housing programs for low-income populations, which have built over 6,500 housing units. The idea is to hire a team to support SEINF with the social works, the funds for which (US\$300,000) are included separately under concurrent costs. Executing agency: SEINF.
- 4.33 *Environmental program 11:* Operational structure and management of the BEP (US\$1 million). The management organization proposed for the BEP consists of two technical experts in socioenvironmental issues. They will work with the team of the program management firm hired to support the PMU. These will be responsible for supervising environmental programs not directly linked to the works. The costs of this program are included in funds earmarked for engaging the manager, works supervisors and concurrent costs. Executing agency: SEINF/SEMAM.

5. Public hearings

- 4.34 In compliance with Bank policies, the environmental studies, including the resettlement plan, were published locally and posted on the Bank’s PIC on

1 July 2003. As part of the process of granting the environmental permits required by applicable local legislation, a formal public hearing and four public consultations were held, with a specifically sociocultural approach. These events were preceded by widespread publicity in the local and regional press, announcing the availability of the EIA and the holding of public hearings.

- 4.35 The preliminary environmental permit for the program was granted in April 2003 by SEMAM, following a favorable ruling by the Municipal Environment Council (COMAM). Obtaining the environmental installation permit for the program works is a condition precedent to actual start up of the works.

6. Program environmental monitoring

- 4.36 This will be performed as mentioned in paragraph 4.23, and the resettled population will be monitored for a year.

F. Risks

- 4.37 That the program contains complete engineering projects and terms of reference for all service hirings, in addition to an institutional strengthening component, reduces most of the execution and operating risks.
- 4.38 Given the innovative nature of the system proposed in the program (concession of operating areas consisting of a trunk corridor together with its respective feeder routes, rather than the concession of individual bus routes), the tenders for the new areas into which the municipality has been divided may fail to attract bidders. This is mainly due to the vagueness of the existing legal and institutional framework and uncertainty surrounding the system for calculating the fare to be charged. These risks will be minimized by: (i) harmonizing the legal and institutional framework of the municipality with the regime governing permits and concessions for collective municipal transport services, a condition precedent to the first disbursement (paragraph 3.37); and (ii) preparation of bidding documents for the operating areas that clearly establish the ground rules. These two factors should arouse private sector interest in investing in the public transport sector in Fortaleza (paragraphs 3.26 through 3.28).
- 4.39 At the present time, the fare compensation system is operating on a deficit, having been created in 1992 to allow implementation of a single flat fare system in Fortaleza. The shortfall, which the bus companies claim was made worse by the decision taken by the MF to authorize lower fares than those calculated under technical criteria, could have negative consequences if it persists in the new system to be put in place under the proposed operating scheme. This risk will be reduced by including in the bidding documents (to be agreed with the Bank) a clause requiring the fare charged to be the same as that calculated according to technical criteria by ETTUSA.

- 4.40 Lastly, there is a risk of administrative discontinuity following the elections in late 2004, if the next administration fails to give the project the same priority as the present municipal administration. Because of its benefits to a broad range of low-income groups, the project enjoys strong public support, so the next mayor is unlikely to downgrade it.

**BRAZIL: FORTALEZA URBAN TRANSPORTATION PROGRAM
(BR-0302)**

LOGICAL FRAMEWORK

Descriptive summary	Indicators	Means of verification	Assumptions
Goal			
To help improve mobility for users of the Fortaleza public transport system, through better conditions provided by the program.	By the end of the program, the user satisfaction with SIT as reflected by satisfaction index, to be at least 75% – an increase of 15% from the survey in 2002, which reported a 65% satisfaction rate.	Survey commissioned by ETTUSA	
Outcome			
The population of Fortaleza and those living in areas served by the program will have a more efficient urban public transport system (shorter journey times, lower operating costs, greater safety, and better environmental conditions).	<p>By the end of the program, SIT bus fleet per km fuel consumption to be reduced by approximately 15%, from the current rate of 233.955 litres/km/day to about 198.495 litres/km/day.</p> <p>By the end of the program, SIT-FOR operating costs calculated by ETTUSA to be 18% below simulated costs without the program. In June 2003, the technical fare calculated by ETTUSA was R\$1.79, and the simulated one assuming program execution, was R\$1.46.</p> <p>By the end of the first year of operation, average round-trip journey times by bus during peak hours to have been reduced on SIT corridors as follows: (i) Corr. (1) B. de Menezes/ D. Olimpio (Papicu): by 24% (from the current 56 minutes to 43 minutes on the A.Bezerra/Centro route, and from 100 minutes to 76 minutes on the A.Bezerra/Papicu route); (ii) Corr. (2) A. dos Anjos/ J. Bastos: by 10% (from 64 minutes at present to 58 minutes (Siqueira/ Centro route); (iii) Corr. (3) Sen.F.Távora/ Exped: by 30% (from the current 70 minutes to 49 minutes (Parangaba/ Centro route).</p>	<p>Report by ETTUSA.</p> <p>Report by ETTUSA.</p> <p>Report by ETTUSA.</p>	<p>The new municipal administration that will take office in 2005, continues support for the SIT.</p> <p>Municipal bodies responsible for transport issues continue to provide SIT with appropriate technical, operational, and environmental management.</p>

Descriptive summary	Indicators	Means of verification	Assumptions
	<p>By the end of the first year of operation, the accident severity to mean daily traffic volume ratio on the following SIT corridors to have been reduced by 20% from the year preceding the start of the program: (i) Corr. (1): from 0.017 to 0.0132; (ii) Corr. (2): from 0.026 to 0.0208; (iii) Corr. (3): from 0.019 to 0.0153.</p> <p>By the end of the program, the average time for which buses are stopped at traffic lights in the morning rush hour to have decreased by 7%, on Av. B. de Menezes in the west-east direction, from 27.6 to 25.7 seconds following expansion of the ATC.</p> <p>By the end of the program, the average time for which buses wait at intermediate stations to have decreased by an average of 7%, during the morning rush hour on Av. B.de Menezes, from 8.11 to 7.54 seconds.</p> <p>By the end of the program, the annual number of accidents between buses in the Antonio Bezerra, Papicu, Parangaba and Siqueira terminals to have been reduced by 14%, from 251 collisions today to 216.</p> <p>By the end of the program the average noise indicator reading inside SIT vehicles will not exceed 77 decibels (dBA), compared to the present reading of 79.5 dBA.</p>	<p>Report by AMC (Traffic Accident Information System - SIAT).</p> <p>Report by ETTUSA/AMC.</p> <p>Report by ETTUSA/AMC.</p> <p>Report by ETTUSA.</p> <p>Reports by SEMAM.</p>	
Output			
1. Construction of public transport trunk corridors (public transport vehicles in Fortaleza circulate along an integrated network of dedicated/preferential bus corridors in good functional, structural and operating conditions, promoting comfort, speed, safety and punctuality for the user, during the journeys themselves and in the actions of boarding, disembarkation and changing buses).			
1.1 Road infrastructure implemented and open to traffic.	The following corridors to be implemented in accordance with the timetable and with engineering designs approved by SEINF: (i) by the end of the second year: Corr.(1): 17.38 km and Corr. (2): 11.59 km; (ii) by the end of the fourth year: Corr. (3): 15.64 km.	Terms of acceptance of works (TAW) issued by SEINF, and opening of the respective segments to traffic.	All bodies involved in the program carry out their functions as programmed.
1.2 Integration terminals renovated and functioning.	The following terminals to have been renovated in accordance with the timetable and design specifications, and are functioning in the SIT: (i) by the end of the second year: Terminals: A. Bezerra, Papicu and Siqueira; (ii) by the end of the fourth year: Parangaba.	TAW issued by SEINF, and platforms opened to the public.	Bidding on the concession of bus operations in the traffic operating areas is successfully completed by the established deadlines.

Descriptive summary	Indicators	Means of verification	Assumptions
1.3 Intermediate stations implemented and functioning.	By the end of corridor implementation, all intermediate bus stations envisaged, to be using platform level boarding and functioning: (i) by the end of the second year: Corr. (1): 45 stations; Corr. (2), 36 stations; (ii) and by the end of the fourth year: Corr. (3): 48 stations.	TAW issued by SEINF and platforms opened to the public.	All problems relating to the deficit that exists in the fare compensation system are resolved, and fare levels are adjusted in accordance with calculations carried out by ETTUSA.
1.4 Grade-separated intersections and pedestrian crossings constructed and open to traffic.	By the end of the program, eight overpasses and seven pedestrian bridges to have been constructed on the corridors in accordance with engineering design specifications.	TAW issued by SEINF and opened for use.	The new municipal administration which will take office in 2005 continues to support the program.
2. Maintenance of urban areas and roads (collective freight and passenger transport, together with nonmotorized modes of transport, in the municipality of Fortaleza circulate on roads outside the main corridors with satisfactory service and safety levels, on roads maintained in adequate functioning and structural conditions)			
1.1 Lane duplication outside the corridors implemented and opened to traffic.	By the end of the program, approximately 14.36 km of urban roads to have been duplicated and improved, and opened to traffic in accordance with engineering designs and operational projects.	TAW issued by SEINF and opening for use.	All bodies involved in the program execute their functions as programmed.
1.2 Refurbishment of roads outside the corridors implemented and opened to traffic.	By the end of the program, approximately 22.54 km of roads to have been refurbished and opened to traffic in accordance with executive engineering designs and operational projects.	TAW issued by SEINF.	Bidding on bus concessions in the traffic operating areas are conducted successfully by the established deadlines.
1.3 Public spaces restructured and opened to the public.	By the end of the program, 15,200 trees and 136,500 m2 of grass to have been planted along urban roads, and 81.70 km of pedestrian sidewalks to have been implemented in accordance with the technical design specifications, and made available to users.	TAW and terms of reference of services issued by SEINF.	All problems relating to the deficit that exists in the fare compensation system are resolved, and fare levels are adjusted in accordance with ETTUSA calculations.
1.4 Grade-separated intersections and pedestrian crossings constructed and opened to public.	By the end of the program, four overpasses and one pedestrian crossing, as envisaged in the engineering designs of the roads, to be in place.	TAW issued by SEINF.	The new municipal administration that will take office in 2005, continues support for the program: (i) all bodies involved in the program, execute their functions as programmed; (ii) the new municipal administration that will take office in 2005 continues to support the program.
1.5 Urban public transport bus stops in place and being used.	By the end of the program, 100% of roadside bus stops to be in place, in accordance with the specifications and sites envisaged, and be in use by the public.	TAW issued by SEINF; installations in use.	

Descriptive summary	Indicators	Means of verification	Assumptions
3. Road safety (Mass transport in Fortaleza operating with improved safety conditions for vehicles, passengers, pedestrians, and cyclists.)			
3.1 Traffic lights	By the end of the program, the ATC to have installed traffic lights at 122 intersections, as well as five television cameras and two variable message panels (VMPs), in accordance with the operating project specifications, making a total of 313 intersections with traffic lights, 35 with cameras and 22 with VMP panels.	Terms of acceptance issued by SEINF/AMC	All bodies involved in the program execute their functions as programmed.
3.2 Accident information system	By the end of the program, the traffic accident information system (SIAT) to have been installed, facilitating appropriate traffic management, with coverage of all accidents occurring within the boundaries of the municipality.	Reports by AMC	The new municipal administration that will take office in 2005 continues support for the program.
4. Institutional strengthening (environmental, technical and operational management of SEMAM, SEINF, ETTUSA and AMC is carried out differently)			
1.1 Institutional strengthening of SEINF	By the end of the program SEINF institutional upgrading and actions of information and interaction with the community to have been carried out.	Reports by SEINF	All bodies involved in the program execute their functions as programmed.
1.2 Institutional strengthening of SEMAM	By the end of the program, institutional upgrading of SEMAM, actions of environmental education and environmental monitoring, and conservation units to have been implemented.	Reports by SEMAM	The new municipal administration that will take office in 2005 continues support for the program.
1.3 Institutional strengthening of ETTUSA	By the end of the program, institutional upgrading of ETTUSA to have been implemented, and the user information system to be functioning efficiently.	Reports by ETTUSA	
1.4 Institutional strengthening of AMC	By the end of the program, AMC institutional upgrading to have been implemented, with loading and unloading being carried out in accordance with the plan developed. The MF to have a contingency plan in place for cases of accidents involving hazardous cargoes.	Reports by AMC	
1.5 Procurement	By the end of the first year of the program, all equipment of participating institutions to have been procured and be operating appropriately. By the end of the program, the MF has rules in place for the design and specifications for execution of highway projects.	Report by SEINF Report by SEINF	
5. Socioenvironmental performance	During the five years of program execution, all environmental problems arising in the works to have been resolved within the deadlines established by SEMAM.	Reports by SEMAM	All bodies involved in the program execute their functions as programmed.

Descriptive summary	Indicators	Means of verification	Assumptions
	<p>By the end of the second year of the program, 2,800 properties and/or buildings to have been expropriated, and 260 families resettled/compensated</p> <p>By the end of the program, 3,682 properties and/or buildings to have been expropriated, and 335 families resettled/compensated.</p>	TAW issued by SEINF/SERs (regional executive secretariats); report by SEMAM; visual inspections.	The new municipal administration that will take office in 2005 continues support for the program.
Input			
	See cost table.		Counterpart contributions are made as agreed.

FORTALEZA URBAN TRANSPORTATION PROGRAM PROCUREMENT PLAN

(all amounts expressed in thousands of U.S. dollars)

Activity	Type of funding	Type of activity	Modality	Publication (year - quarter)
1 – ENGINEERING AND ADMINISTRATION				
<i>Tender for provision of support for program management unit.</i> <i>Bidding Lot 1 (single) - Reference value for bidding: US\$2,550</i>	Partial IDB	Consulting services	ICB	2004 - III
2 – DIRECT COSTS (WORKS AND SERVICES)				
<i>Works Tender 1. Total bidding lots: 3 - Reference value for bidding: US\$39,807</i> <ul style="list-style-type: none"> Lot 1- Bus trunk corridor (BTC) 1- Av. B. de Menezes / Av. Sales. (US\$22,143) Lot 2 - BTC 2 - Av. Augusto dos Anjos / Av. José Bastos (US\$11,972) Lot 3 - Expansion of roads complementary to Av. S. Hermínio; Rua P. P. de Alencar and restoration of Rua V. Rio Branco; Rua Cap. Gustavo/ Rua I. Albano; Rua J. Cordeiro (US\$5,692) 	Partial IDB	Works and services	ICB	2004 - III
<i>Works Tender 2. Single lot - Reference value for bidding: US\$8,426</i> <ul style="list-style-type: none"> Restoration of streets B. Rio Branco; M. Dantas / S. Paulo; Av. D. de Caxias; Av. J. Feitosa; Rua C. Barros; Av. 13 de Maio; Av. P. Vieira, Av. L. Carneiro and Av. H. Monte 	Partial IDB	Works and services	ICB	2004 - IV
<i>Works Tender 3. Single lot - Reference value for bidding: US\$13,285</i> <ul style="list-style-type: none"> BTC Av. Senador Fernandes Távora/ Av. dos Expedicionários 	Partial IDB	Works and services	ICB	2005 - I
<i>Works Tender 4. Single lot - Reference value for bidding: US\$13,782</i> <ul style="list-style-type: none"> Expansion of roads complementary to Av. Theberge/Av. Humberto Monte/Rua Desembargador Praxedes; 1º Anel Vial and Rua Lauro Vieira Chaves. 	Partial IDB	Works and services	ICB	2005 - IV
<i>Works Supervision Tender 1</i> <ul style="list-style-type: none"> Lot 1- BTC Av. Bezerra de Menezes/Av. Antônio Sales (US\$885) Lot 2- BTC Av. Augusto dos Anjos / Av. José Bastos (US\$475) Lot 3- Expansion of roads complementary to Av. S. Hermínio; Rua P. P. Alencar and restoration of Rua V. Rio Branco; Rua C. Gustavo/Rua Ildefonso Albano; Rua João Cordeiro (US\$225) Total bidding lots: 3 - Reference value for bidding: (US\$1,585) 	Partial IDB	Consulting services	ICB	2004 - III
<i>Works supervision Tender 2</i> <ul style="list-style-type: none"> Restoration of Ruas B. Rio Branco; M. Dantas / S. Paulo; Av. D. de Caxias; Av. J. Feitosa; Rua C. Barros; Av. 13 de Maio; Av. Pontes Vieira, Av. Luciano Carneiro and Av. Humberto Monte Single lot - Reference value for bidding: US\$335 	Partial IDB	Consulting services	ICB	2004 - III
<i>Works supervision Tender 3</i> <ul style="list-style-type: none"> BTC Av. Senador Fernandes Távora/Av. dos Expedicionários Single lot - Reference value for bidding: US\$530 	Partial IDB	Consulting services	ICB	2004 - IV

Activity	Type of funding	Type of activity	Modality	Publication (year - quarter)
<i>Works supervision Tender 4</i> <ul style="list-style-type: none"> Expansion of roads complementary to Av. Theberge/Av. H. Monte/Rua D. Praxedes; 1º Anel Vial; Rua L. Vieira Chaves Single lot - Reference value for bidding: US\$550 	Partial IDB	Consulting services	ICB	2005 - III
<i>Tender for traffic monitoring and isolated traffic lights</i> <ul style="list-style-type: none"> Lot 1 Expansion of ATC/FOR Corr. B. de Menezes/A. Sales/R. J. Brigido, incl. Equip. (US\$1,132) Lot 2 Expansion of ATC/FOR Corredor Av. Augusto dos Anjos/Av. José Bastos - (US\$1,045) Lot 3 Expansion of ATC/FOR Corr. Av. S. F. Távora/Av. dos Expedicionários - (US\$843) Lot 4 Procurement of isolated traffic lights - (US\$780) Total bidding lots: 4 - Reference value for bidding: US\$3,800 	Partial IDB	Traffic lights and specific equipment. Installation and assembly services	ICB	2005 - II
3 – INSTITUTIONAL STRENGTHENING				
<i>Tender 1 for institutional upgrading</i> <ul style="list-style-type: none"> Lot 1- SEINF – (US\$255) Lot 2 - SEMAM – (US\$110) Lot 3 - ETTUSA – (US\$140) Lot 4 - AMC – (US\$140) Total bidding lots: 4 - Reference value for bidding: US\$645 	Partial IDB	Consulting services	ICB	2005 - IV
<i>Tender 2 Institutional</i> <ul style="list-style-type: none"> Lot 1- Environmental zoning (US\$108) Lot 2 - Environmental monitoring (US\$81) Total bidding lots: 2 - Reference value for bidding: (US\$189) 	Partial IDB	Consulting services	ICB	2005 - I
<i>Tender 3 Information system</i> <ul style="list-style-type: none"> Lot 1 - Information to the community (US\$367) Lot 2 - Accident information (US\$80) Lot 3 - Information to users (US\$140) Lot 4 - Environmental education (US\$70) Total bidding lots: 4 - Reference value for bidding: (US\$817) 	Partial IDB	Consulting services	ICB	2004 - IV
<i>Tender for human resource training</i> <ul style="list-style-type: none"> Lot 1 - SEINF (US\$95) Lot 2 - SEMAM (US\$65) Lot 3 - ETTUSA (US\$50) Lot 4 - AMC (US\$50) 	Partial IDB	Consulting services	ICB	2004 - I
<i>Tender for preparation of plan</i> <ul style="list-style-type: none"> Lot 1 - Cycle lanes (US\$150) Lot 2 - Loading and unloading and hazardous cargoes (US\$120) Total bidding lots: 2 - Reference value for bidding: (US\$270) 	Partial IDB	Consulting services	ICB	2005 - II

Activity	Type of funding	Type of activity	Modality	Publication (year - quarter)
<i>Tender for equipment procurement for SEINF, SEMAM, ETTUSA, AMC</i> • Single lot - Reference value for bidding: US\$1,425	Partial IDB	Computer equipment for accident information system	ICB	2005 - I
<i>Tender for procurement of vehicles and motorbikes</i> • Single lot - Reference value for bidding: US\$280	Partial IDB	Vehicles and motorbikes	LCB	2005 - I
Management study • Lot 1 - Contracting of study for use of electronic ticketing system (US\$60) • Lot 2 - Contracting of consulting services for SIT financial management study (US\$50) • Total bidding lots: 2 - Reference value for bidding: US\$110	Partial IDB	Consulting service	LCB	2004 - III
<i>Tender for procurement of environmental monitoring equipment</i> • Single lot - Reference value for bidding: US\$145	Partial IDB	Equipment	LCB	2005 - II
4 – CONCURRENT EXPENSES				
<i>Tender for social work</i> • Single lot - Reference value for bidding: US\$300	Local contribution	Consultants	LCB	2004 - IV
<i>Tender for works on condominiums destined for population to be resettled</i> • Single lot - Reference value for bidding: US\$1,140	Local contribution	Works and services	LCB	2004 - IV
<i>Tender for works on condominiums destined for population to be resettled</i> • Single lot - Reference value for bidding: US\$2,360	Local contribution	Works and services	LCB	2005 - I
<i>Tender for preparation of conservation unit management plan</i> • Lot 1 - Rio Cocó Valley APA - Reference value for bidding: US\$40	Local contribution	Consulting services	LCB	2005 - II
<i>Tender for preparation of conservation unit management plan</i> • Lot 1 - Parque Lagoa da Parangaba - Reference value for bidding: US\$25	Local contribution	Consulting services	LCB	2005 - II
<i>Tender for implementation of conservation unit management plan</i> • Lot 1 - Rio Cocó Valley APA - Reference value for bidding: US\$135	Local contribution	Consulting services	LCB	2005 - III
<i>Tender for implementation of conservation unit management plan</i> • Lot 1 - Parque Lagoa da Parangaba - Reference value for bidding: US\$150	Local contribution	Consulting services	LCB	2005 - III

Note: The following items are envisaged to complement institutional strengthening expenses, as part of the basic environmental plan (BEP):

Program 2.1 – Interaction and consultation with the community – US\$3; Program 3 - Implementation of PEA US\$160

Program 4.2 – Monitoring of noise levels and ETE monitoring – US\$74 (Agreement with Federal University of Paraná) / Program 6.1 – Monitoring of Land Use/Urban Structure – US\$32.